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ABSTRACT

This Environmental Education Teacher's Guide is designed for use with the Maine Land-Use Challenge, a mini-course designed for use in the secondary schools. The mini-course itself grew out of a day-long land-use conference in 1971, sponsored by the Allagash Institute, in the coastal town of Phippsburg, Maine. The conference was filmed and edited against the background of the Phippsburg peninsula, into a 30-minute sound and color film, MAINELAND, which serves as the basis for this unit of study. The major goal of this mini-course is to help students acquire an understanding of the need for land-use planning and to help them acquire the motivation and ability to participate in sound land-use decision making. The guide is divided into six parts: Land-Use Values Clarification; The History of Land-Use; A Community Land-Use Case Study (slide presentation); Simulation of a Community Land-Use Issue; Follow-up Considerations; and Selected Bibliography. The Appendices include: pre- and post-tests, MAINELAND film outline, a community attitude survey, and charts. (BT)

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ENVIRONMENTAL EDUCATION

TEACHER'S GUIDE

SENIOR HIGH SCHOOL

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a core experience study of the
LAND USE CHALLENGE

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THE
MAINE LAND USE
CHALLENGE

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The Maine Land Use Problem

A Secondary Education Unit

INTRODUCTION TO THE TEACHER

Land-Use refers to the way land is altered and managed to meet human needs. It includes such uses as agriculture, industry, residencies, recreation, highways, open space, etc., and deeply influences the social organism where the land is located.

Land-Use, and its related fields of planning, zoning and environmental protection is not a new concept. It has been in operation since the Indians hunted in the forests, cultivated corn in the clearings and grouped their lodges around a source of pure water.

During the years of European settlement and industrial expansion, however, land-use was interpreted mostly as: "The land is there - how can we use it for our own comfort and profit?"

Now discomfited by the increasing pressures from nearby cities, generally growing pollution and the possibility of stepped-up industrialism, the people of Maine have come once again to realize that land is an irreplaceable resource of the planet Earth and that only through wise and respectful use of this resource can Maine prosper economically without destroying the assets that make it desirable to live here.

In 1971 the Allagash Institute (then the Allagash Group) sponsored a day-long land-use conference in the coastal town of Phippsburg. State officials, representatives of private organizations and land-use experts came together with the people of Phippsburg in an often heated debate concerning the town's greatest asset: its land.

Issues raised included such fundamental considerations as who should decide what happens to the land; whether or not government (state, federal or local) regulations meet the needs of the people and the land in a realistic way, and, underneath, a strong current of concern from people who did not want their individual liberties infringed upon, but were confused and worried about the changes coming to their community. The conference was filmed and edited, against the scenic background of the Phippsburg peninsula, into a 30-minute sound and color film at a cost of \$3,700, which has been shown over ETV as well as in many local communities.

It is the film, Maineland, which the Allagash Institute is using as a basis for this unit of study and activity. The major goal of this mini-course is to help students acquire an understanding of the need for land-use planning and to help them acquire the motivation and ability to participate in sound land-use decision-making. These three outcomes - understanding, motivation or feeling and ability or skill - are more specifically defined on the following pages. It is their attainment in each student that prompted this unit to be developed and taught and, as such, they form the basis for all teaching and student activities.

Suggestions on the Use of the Unit

The unit activities are designed to be of two kinds - basic core activities and optional activities. The two suggested core activities are in Part III - The Phippsburg Case Study slide presentation followed by the film Maineland. One period is suggested for each. The other activities have been developed to both precede and follow-up these two and you are encouraged to utilize as many of them as time allows.

Part I provides an opportunity to introduce the land-use issue and is particularly oriented to clarifying land-use

values and goal setting. Each activity is designed to be carried out in approximately one period.

Activity One provides a pretest as well as an introduction.

Activity Two may involve the students in summarizing and analyzing the test results as an educational experience. If the teacher wishes to simply give the survey as a pretest, he or she can summarize it without student involvement.

Activity Three, although based on a question in the survey, can be carried out independently as a land-use values clarification activity.

Activity Four involves students in goal setting and can also be carried out independently of the others if the teacher wishes.

Part II provides an opportunity for students to gain an understanding of land-use history through reading and discussion.

Part IV is designed to follow-up the film Maineland. Through a simulation, students can become personally involved in the process of land-use planning and problem-solving. One period is suggested to introduce the problem and provide time for research and one period will be needed to actually carry out the simulation. If the teacher wishes to use the post-test, another period will be required. This is designed to serve as a secret ballot for the simulation and includes the same questions as the present so that scores may be compared and unit outcomes measured.

Part V offers follow-up consideration which you might be interested in exploring upon completion of parts or all of the unit.

Finally, it is hoped that the flexibility built into this unit will meet the needs of most secondary teachers and will encourage you to involve your students in the further study of the Maine land-use problem.

The Maine Land Use Problem

UNDERSTANDINGS TO DEVELOP

A. FACTS

1. Planning Board A legal municipal agency of appointed members with responsibilities for land-use control activities and ordinances including zoning and subdivision controls.
2. Comprehensive Plan A compilation of goals, standards, maps and information on the community's natural and human resources with recommendations including, but not limited to land-use ordinances, housing, safety, etc.
3. Zoning Ordinance A legal document dividing the community into districts and limiting the kind of use or activity that may take place on all land and within a given area.
4. Subdivision Control Ordinance A legal device that regulates the process of dividing up and developing raw land - concerned with setting standards for streets, sewers, water supply, design, open space, etc.
5. Plumbing Code A State legal document prescribing rules for water supply location, percolation tests, sewage disposal methods, drainage controls, etc.

6. Conservation Commission A legal municipal agency of appointed members with responsibilities to advise the community on open space, to carry out a natural resources inventory, educate the public, etc.

B. CONCEPTS

(Definition of the Problem)

1. The earth is a spaceship. Therefore, the land is finite in amount. It varies in physical, chemical and biological characteristics and is interrelated with water, plants, and animals including humans.
2. Land has three major interrelated human values:
(1) ecological - our survival depends upon it, (2) economic - it is a scarce resource which is useful to us and can be bought and sold, and (3) psychological - its variety of forms and uses provide us with comfort, pleasure, etc.
3. Land problems may be judged to exist when the amount of land and its characteristics, interrelationships and changes are altered to the extent they temporarily or irreversibly decrease the existing and future ecological, economic and/or psychological values of the total environment.
4. The rate at which land values are changing is accelerating in Maine resulting in a scarcity of time for decision-making to preserve values and value options.

(Causes of the Problem)

5. Human numbers (population) cause land resources to become scarce, prices to rise and other associated problems.

6. Human qualities including the lack of sensitive land values, the lack of knowledge of land and its problems and the lack of skills to investigate the land and identify and resolve problems are a fundamental cause of land-use problems.
7. Ecological characteristics of the land, such as slope, soil, bedrock, depth to water table, aquatic areas, vegetation, etc., place limitations on land uses.
8. Institutions including education and research, economic, government and private contribute to land use problems if they or their laws and policies are lacking or if they are unresponsive to the need for solutions.
9. Technology contributes to land-use problems through the lack of designs and developments which help resolve problems and lack of application of existing tools, products and methods.

(Criteria for Evaluating Alternatives and Choosing Solutions)

10. A solution should protect or enhance the present and future ecological stability of the land.
11. A solution should strike a fair balance between all public and private interests.
12. A solution should provide long-range ecological, economic and psychological benefits.
13. A solution should assure that decisions will be made in time to maximize benefits.
14. A solution should be able to adjust quickly and flexibly to meet rapidly changing needs.

(Implementing Solutions)

15. Individuals should seek to understand issues, form rational opinions, vote, communicate to others and volunteer to serve.
16. Community government should seek input from individuals concerning the prevention and resolution of local issues and problems and establish procedures for implementing and enforcing solutions, e.g., zoning and subdivision ordinances.
17. Regional government, such as regional planning commissions, should provide a framework for cooperation and coordination for finding and implementing solutions of common community concern.
18. State and federal governments should provide for the establishment and implementation of laws protecting the overall welfare including, for example, critical concern areas such as shorelands, historical areas, etc.
19. Private organizations, business and industry should provide assistance through education, research and action programs to identify and help resolve land-use problems.

The Maine Land Use Problem

ATTITUDES AND VALUES TO CLARIFY

1. Land ethic - a high value on the natural environment upon which we are dependent for our survival.
2. Future orientation - balance short-range benefits with long-range benefits.
3. Social responsibility - individual land-use decisions must respect the rights of others and recognize the need for regulations to protect the public welfare.
4. Growth Caution - the "revolution of rising expectations" must consider land effects.
5. Acceptance of change - change will occur and it must be anticipated and managed.
6. Living close to nature (Sprawl Tendency) - the "effects of the American Dream" of room to roam must be managed to control environmental impact and maximize benefits.

The Maine Land Use Problem

SKILLS TO DEVELOP

1. Ability to investigate:
 - a. Finding out what to investigate concerning the land-use problems.
 - b. Gathering information.
 - c. Compiling, recording and reporting on collected information.
2. Ability to evaluate information and identify land-use problems:
 - a. Formulating evaluative questions and criteria by which to judge land suitability and effects of uses.
 - b. Finding answers to evaluative questions to identify opportunities to prevent and resolve land-use problems.
3. Ability to help resolve land-use problems:
 - a. Defining land-use problems.
 - b. Developing alternative solutions for land-use problems.
 - c. Choosing or making decisions on alternative solutions.
 - d. Implementing problem-solving solutions.

PART I

LAND-USE VALUES CLARIFICATION

PART I. Land-Use Values Clarification

A. Introduction for the Teacher

This first part of the unit introduces the students to an important beginning step in land-use planning - the development of a community goals statement. In addition, the students' involvement in the activities in Part I will serve several other purposes: (1) the students will be introduced to the scope and complexity of the land-use problem, (2) the students will have an opportunity to clarify their own values with respect to the land-use issue in their own communities and thus lay a foundation for future decision-making and values examination in the unit, and (3) the students will, unknowingly, be pretested on three variables - knowledge, feelings (attitudes) and skills - which will later be post-tested to determine the educational effects of the unit.

B. Objectives (Student Outcomes)

The student will be able to:

1. describe the nature, the value of and the process of preparing a community goals statement,
2. describe the scope and nature of the land-use problem, and
3. indicate his feelings or attitudes and values with respect to the basic issues of the land-use problem.

C. Content (for student and teacher reading)

State law now requires that each town have a "statement of community goals which helps in making official

community decisions on growth and development: This must be done before developing or updating a plan to guide a community's future. Such a statement of goals should reflect the feelings of the town's citizens. Accordingly, communities are now and have been conducting attitude surveys upon which to develop community goals. Generally, town planning boards have initiated the community surveys, often receiving assistance in their preparation from professional planners. After the survey questionnaire has been drafted, tested, and written in its final form, it is then distributed to the citizens. After being filled out and collected, the answers are listed in categories. Finally, the answers are analyzed and used to help in the writing of goal statements for the community, that is, what the citizens would like the community to ideally be in the future. Frequently, public meetings or hearings follow the survey to discuss the results and goal statements.

The survey results and the goals can then be used to develop a comprehensive land-use plan on how the community should develop so that it might achieve its goals. Such a plan is a collection of ideas and information on the community's natural resources, population, businesses, etc., including recommendations on its future. In addition, the survey can help community officials to know better where the town now is in its process of development and what problems now exist. The survey also helps to identify people in the community who can participate and give leadership in the development of a comprehensive plan.

D. Activities:

The following activities have been designed to accomplish the purposes described earlier. They are listed in the sequence in which they should be carried out.

1. Community Attitude Survey - one class period

Introduce the unit by having each student complete the COMMUNITY ATTITUDE SURVEY. (A copy is in Appendix A). Since this also serves as a pretest, make no mention that this is the start of a land-use unit. If you wish to tell the class that the local planning board is conducting a survey of all citizens to help in making decisions on community problems, because many students are now or will be of voting age in the near future and they will be affected tomorrow by the decisions made today, they are being given an opportunity to express their views. Say that you, as their teacher, are not personally interested in their views. Ask that they print or write their answers neatly and clearly. Be sure they have enough time to complete the questionnaire. They are asked not to sign their names but if you wish to do a statistical analysis of the results of the post-test compared to this pretest you will need to compare the two scores of each individual. In this case, give out each survey with a coded number for each student.

2. Student Analysis of the Survey - one class period

This activity is both important and motivating because it will give students an insight into their own values and provide a review of key ideas. From your standpoint as a teacher it will give you valuable baseline data on the skills, values and understandings your students possess prior to the unit's activities.

At the start of this activity you can break the news to the students that this was not a real survey but contained many elements of an actual survey. Then you can explain to them that it was designed to be a learning device for the purposes stated above. Go on to say that once a survey is

completed the planning board is eager to find out what the results are since these give direction for future planning work. In this respect, this survey will serve a similar purpose in helping you to identify what aspects of land use planning should be stressed in your teaching to make the unit of greatest value to the students.

The analysis can be carried out quickly and effectively by dividing the class into teams with responsibilities for reporting on the following questions in the nine listed categories: (Be sure to leave enough time for the follow-up analysis discussion).

Team 1) General Information

- 1.
- 2a.
- 3.

Team 2) Knowledge of Facts

- | | | |
|----|-----|----|
| 4. | | 7. |
| 5. | and | 8. |
| 6. | | 9. |

Knowledge of Concepts

Team 3) -General Understanding of the basis of the Problem

10, 11, 12, 13, 14 and 15

Team 4) -Causes of the Problem

16, 17, 18 and 19

Team 5) -Evaluating Alternatives and Choosing Solutions

20, 21, 22, 23, 24, 25, 26, 27 and 28

Team 6) -Implementing Solutions

29, 30, 31, 32, 33, 34, 35, 36 and 37

Team 7) Basic Attitudes and Values
38, 39, 40, 41, 42 and 43

Team 8) Land-Use Priorities and Community Preferences
44, 45 and 46

Team 9) Basic Decision Making Skills
47, 48 and 49

To assist in organizing the analysis, the survey questionnaire is designed to have all the questions in each group on a separate page. This enables you to quickly give all the analysis teams the answer sheets they need at the same time. Along with the questionnaires give each team the appropriate COMMUNITY ATTITUDE SURVEY SUMMARY and Reporting Sheet - copies of which are enclosed.

Following the completion of the summarizing the results can be reported by each team and analyzed through discussion. The following questions may help you stimulate discussion.

1. What do these results mean - what do they tell us?
2. Were you surprised at the results? Why?
3. Why do you think these results occurred? How do you explain them?
4. How would you summarize the results of the survey overall?

3. What Land Uses Do You Value Most? - one class period
(Using a paired comparisons approach to clarify values)

This activity is designed to help the students clarify how they value different land uses. In question 46 of the COMMUNITY ATTITUDE SURVEY they

were asked to rank order seven different land uses with number one being assigned the use they valued most, number two - second most valued land use, etc. This question was summarized in Summary and Reporting Sheet 8. Do not have them refer to this summary until they have completed this exercise.

This separate exercise is important because experience has shown that individuals have difficulty in identifying their true feelings when they have as many variables to deal with as the seven land uses. However, they should be able to acquire a more accurate picture of their values if they compare one land use against another and then total the values in some way. The paired comparisons approach allows this to be done. Much credit for developing this approach goes to Mr. Michael Naylor of the Minnesota Environmental Sciences Foundation. To carry out this activity the following steps are suggested:

1. List the seven land uses on the chalkboard.

Ask the class to suggest reasons for and against encouraging the development of each use. List these as they are given and agreed upon.

2. Use the paired comparisons transparency (see copy below) to record results of votes by show of hands. Or you may use the transparency to instruct students in filling out the chart by themselves on the copies provided.

3. Directions to the student:

- a. Compare the uses along the bottom with each use in the column at the left. For example, compare residential on the bottom with commercial, industrial, and each of the other four uses below them. You will be taking one use along the bottom at a time and comparing it with each use along the side. At this time fill in only the boxes below the 2's.

COMPARE THESE
USES AGAINST
THOSE ALONG THE
LOWER EDGE

TOTALS

LAND USES
LISTED IN
RANK ORDER

RESIDENTIAL	2	1							1
COMMERCIAL	3	2							2
INDUSTRIAL			2						3
INSTITUTIONAL				2					4
RECREATIONAL					2				5
AGRICULTURAL						2			6
OPEN SPACE							2		7
	RESIDENTIAL	COMMERCIAL	INDUSTRIAL	INSTITUTIONAL	RECREATIONAL	AGRICULTURAL	OPEN SPACE		

Figure 1: Paired Comparisons Chart

If the use in the column on the side is to be given development priority over the one at the bottom, rank it a 3 as was done above in rating commercial over residential. If they are equal, rate it a 2. If it should be given a lower development value, rate it a 1. The 2's also occur when the same uses are rated against each other as you can see in the Figure 1 example. When this part of the activity has been completed, you will be able to see how use on the side compares to each use on the bottom.

- b. Now insert the ratings in the light boxes above the 2's. These ratings are derived from those already given. For example, working horizontally in the line opposite residential (on the side) the first open box is a rating against commercial. This rating number should be consistent with what you gave when you rated commercial against residential. If you rated commercial higher than residential and gave it a 3, then residential would be valued less than commercial and you should put a 1 in the box (see Fig. 1 example). Thus, a rating of 3 in the heavy lined boxes would be a 1 in the light lined boxes. A 2 would be a 2 because this shows they are equal. A 1, however, would be a 3. Complete the ratings.
- c. Total all ratings horizontally in each line placing the sums in the total column.

- d. Finally, list the uses in order of total points accumulated in the column at the right. This is the order in which you value the land uses with the one with the highest total having highest development priority.
4. Compare this rank ordering with the summary ordering of question 46, in the COMMUNITY ATTITUDE SURVEY.
5. Discussion
 - a. Why do you differ or stay the same?
 - b. Is it easy to make land use value decisions? Why?
 - c. What do you think of this approach?

4. Community Land-Use Goal Setting - one class period

In this activity students are asked to develop the most important general goals their community should adopt as a basis for land-use planning. Examples of goals established by one Maine community include the following: (You may wish to write these on the chalkboard or hand them out on a ditto sheet).

- 1) To promote a generally open non-intensive pattern of land use consistent with the existing rural character of the community.
- 2) To protect, so far as possible, fishing and sport wildlife resources of the wetlands, streams and rivers.

- 3) To restrain potential man-induced eutrophication of ponds so as to retain them for swimming, fishing, waterfowl and as an attractive setting for existing cottage development.
- 4) To encourage the location of land use activities which will demand municipal services within the existing village service area. These uses include commercial, industrial and year-round residential types of land use.
- 5) To identify and protect the various natural, scenic and historic values of the river corridor for use by people who appreciate these particular values.
- 6) To control vehicular access to land uses along the major highway so as to prevent increasing traffic safety problems.

Notice that these are to be generalized statements to guide in setting up more specific actions such as zoning and subdivision ordinances. Be sure to keep the distinction clear or students may become too specific and develop zoning ordinances instead of community goals.

First, introduce the value of establishing community land-use planning goals by discussing why they are developed and by giving or handing out examples.

Secondly, divide the class into groups of from three to six students. Distribute copies of Community and Attitude Survey Summary and Reporting Sheets 7 and 8. These summarize what the students value pertaining to land use. The task for each

group is to draft one general goal statement to guide the community's land-use planning effort. This should be the most important one they can think of.

Third, after an appropriate time, have each group write its goal statement on the chalkboard. Each group should then be given five minutes to present its rationale for the statement and answer questions.

Fourth, the students should rank order, secretly, the goal statements assigning one for the highest valued statement, etc. The statement with the lowest score would be valued highest, and so on. Report the results and conclude with a final discussion.

E. Evaluation

Evaluation of Part I of the Land-Use Unit should assess the extent the original objectives have been achieved. The teacher may consider two general areas of of this phase:

1. The students may be rated or evaluated on how well they participated in the activities (process evaluation):
 - a. Were they involved?
 - b. Did they assist others?
 - c. Did they emerge as leaders or follow activity?
 - d. Did they contribute?
 - e. Were they motivated?
 - Etc.

2. The students may be evaluated on the extent they met the behavioral objectives established for this part of the unit.
 - a. Can they describe in writing or orally the nature and value of a Community Goals statement and the process of preparing it?
(Note: All students may be either given a written test or a few selected at random to answer the questions.)
 - b. Can they describe the scope and nature of the land-use problem - i.e., what does it involve? What is the nature of it, etc.?
 - c. Can they clearly present their feelings about the land-use issue in their own community?

F. References

1. Allen, Rodney F., et al., 1973. Deciding How to Live on Spaceship Earth. Winona, Minnesota: Plover Books. 133 pages.

PART II

A HISTORY OF LAND USE

PART II A History of Land UseA. Introduction for the Teacher

The history of man's interaction with the land can serve to give a perspective of today's land-use issues. We see that only in recent times has man acquired the capability to completely change his environment to the point that it becomes unstable, offensive, and undesirable on a wide scale for habitation by both humans and non-humans. Only in recent times has the emphasis shifted from using the land for agriculture to using the land to provide other services and utilities. Trends show us that the greatest issues will occur in the areas of site location for industries and utilities, housing development, and suburban growth, with all that it implies. No longer can we concern ourselves only with how to efficiently harvest our natural resources. We must now also be concerned with making sure that sufficient resources are left to support that elusive goal - a quality environment.

The following information for reading is not intended to be definitive. It is rather an attempt to give a quick overview of a long struggle which suddenly became a situation for a real and different type of concern. The land which supports all life is finite and this and future generations must learn to develop a balance between meeting needs and wants and utilizing the basic resources which make these needs and wants possible.

B. Objectives (Student Outcomes)

The student will be able to:

1. describe how man's attitude toward the basic resources changed with his ability to utilize the resources

2. describe the major issues facing present and future generations with respect to land use, and
3. indicate his feelings or attitudes and values with respect to what are the most important lessons that we can learn from a brief review of man's interaction with the land.

C. Content - A Review of Man's Interaction with the Land

The Earliest Times

It was after the Ice Age and the beginning of the Mesolithic Age (Middle Stone Age-8,000 to 10,000 years ago) that man began to exert a noticeable impact on the physical environment. Prior to that he had been a nomadic hunter, moving frequently, and if he did construct shelters they were of a temporary nature. His wandering life-style and his inefficiency in exploiting his surroundings caused little disturbance to the natural scheme and his limited numbers allowed the environment to rebound from any abuses that he might have dealt it. Through the ensuing years he became more adept at tool-making and tool-using. He began to domesticate animals, he tilled the soil, and developed villages. By the Neolithic Age (New Stone Age-5,000 to 8,000 year ago) he was irrigating his crops. The Bronze Age (1,000 to 5,000 years ago) brought new implements more efficient in agriculture, better able to aid in the construction of permanent shelters and communities and also more deadly in war. Surpluses in food allowed people to become merchants and craftsmen. He saw the need for more formal governmental systems and established rules and regulations to govern behavior toward others and his surroundings.

But, even early civilizations eventually realized that they could not place themselves above nature. Their new-found tools and skills had boundaries. It has been shown that the ways that they used their land have been

to some degree responsible for their decline. According to Raymond Desmann:

"When environments were first shaped with agricultural tools and man could depend for subsistence upon his farming skills, he obtained a high degree of control over nature and could harness cycles of energy and nutrient flow and put them to work producing the materials he required. If, however, through a failure to adapt his techniques to the necessities of the environment he damaged or destroyed his land, he perished. Fortunately, he was most often preserved by his own ineffectiveness in bringing great changes. An early tropical farmer, clearing forest with fire and stone axes, could not create the bare exposed soil that would have invited disaster. By the time more efficient tools made this possible, he had learned certain lessons of living with tropical soils and had adapted his farming methods to them. At the worst, where he was too efficient for his own good and lands were damaged, the failure was local; adjoining people could learn by the mistake."¹

And so, the human race continued, but early civilizations such as Egypt, Mesopotamia, and Babylon rose to power and then fell into decline leaving behind eroded hills, silted rivers and overgrazed sterile land.

An Era of Gradual Changes

Man continued in the earlier time of recorded history to struggle with the land and prime settling areas were those with abundant natural resources which allowed the people to pursue activities other than those directly associated with eking out a daily living. Such prized areas were said to be flowing with milk and honey."

As for new techniques in using the land, the Romans developed an Empire which was based on the agricultural production resulting from breakthroughs in conserving soil and water. Mago, a Carthaginian, was a recognized authority on the use of the land around 140 B.C. and saved from the destruction of Carthage in the Third Punic War were 28 volumes of work on agriculture which he authored. But, even though man became more released from direct dependence on the land and had time to explore trade and develop larger cities with more comforts, he still did not have the knowledge and technology to develop a culture in which specialization would leave to different segments of society the responsibility of feeding the masses, or clothing them or acquiring building materials. He remained very much aware of his direct link to the natural resources around him and how they affected his daily living.

The Middle Ages of Europe was a time of kings, lords, serfs and slaves. An elaborate system was started between the rivers Loire and Rhine (now France), called feudalism. This was a time of settling on the land after the wars with Rome and the ravages of the barbarians. Land ownership became central; the only true landowner was the king. Those with wealth offered protection and other services to those under them. In return, the serfs and slaves farmed and cleared the land. Villages in the center of farms were scattered through Europe. And, although man's techniques in dealing with his surroundings were less than sophisticated he had succeeded by the 1700's in settling Europe and reports of waste water and garbage pollution in the streets of London and Paris are recorded. (Earlier, Rome had experienced a similar problem and built sewers to take the waste materials away from the town).

In the following years, growth continued and the subsequent increasing demand for food resulted in the governments encouraging the consolidation of the scattered small holdings of the feudal system. This led to larger

more efficient farms. By the latter 1700's man was succeeding on a wide scale in changing his surroundings. Where earlier civilizations moved or perished when the environment became inhospitable, society was now much more stable. The time was ripe for new breakthroughs in the utilization of present resources and the exploration for new resources.

A Moment in Time for Western Culture

It was in but a moment of time (approximately 1750-present) that the greatest changes have occurred in the land and man's attitudes toward the basic natural resources. It very likely started in Great Britain. Up to circa 1750 Great Britain, in common with all Europe, was primarily agricultural. Although British commerce was now worldwide, most tools and machines had changed little over the centuries and were usually powered by animals or man. Industry was predominantly local and small scale. Suddenly a whole host of mechanical devices were invented and the more efficient farming techniques left many laborers in the growing population unemployed. Factories sprang up and the balance of population shifted from the country to hurriedly constructed dwellings around the industrial sites. A movement had begun which required that the land and its resources feed the machines in return for finished products. Expectations on the part of the people rose and so did the demand. New harvesting and mining techniques complied with the wishes of the people and for the first time in history, wide-scale exploitation was occurring. Society moved even more quickly from a direct link with the basic natural resources. The colonization efforts of France, England, Spain, and the other countries were paying off in imported raw materials from the New World. By the early 1800's, the Industrial Revolution had spread to North America. The question now was not whether man was changing his surroundings

but to what extent was he exploiting his environment. He had more goods and services than ever before and life was easier. Who could anticipate today's discussions and actions to soften the environmental cost? This should be no surprise since the scientific revolution had given man the idea that nature could be controlled and managed to his benefit. He now had the wherewithal and the attitudes to lead to even more alienation from the land. Destruction of large areas due to a lack of awareness was not uncommon.

Land Use in the United States

France, England, and Spain had different reasons for their exploration of America. France did little colonizing but was interested in trading and military centers along with exploiting the human and natural resources of a given area. Spain also colonized for military purposes and exploited the natural-human resources. England was more interested in developing settlement centers by private investment groups. The English exploited the natural resources, but also cultivated the land.

The earlier settlers arrived for various reasons to begin a new life in America. Some wanted to escape religious or political persecution, others wanted to start a new life of adventure, but many were escaping from the feudal type of land ownership and use in Europe where one person of nobility controlled the land and the common people worked on it. It was a dream to own their own land and America was the place to fulfill this dream. Patterns of land ownership soon developed. New Englanders divided the land fairly evenly into small, individually worked farms. The South, because of large royal grants of land from the mother countries, concentrated the land in the hands of the few. Thereby, the European concept of land ownership was, in a sense, perpetrated in the South.

The United States, upon winning its independence, had a chance to develop as a nation different from the European countries' tendencies toward the establishment of nobility and large wealthy landowners. According to Peter Barnes the following occurred:

"Men like Jefferson looked forward to a vigorous agrarian democracy, fostered by public education and a judicious distribution of the government's western domains. However, politicians were less interested in promoting agrarian democracy than in making a quick buck. The history of the giveaway of America's public lands - hundreds of millions of acres over a century and a half - constitutes one of the longest ongoing scandals in the annals of modern man. Fraud, chicanery, corruption and theft there were aplenty, but more scandalous was the lack of concern for the social consequences of uneven land distribution. Congress at times did enact such farsighted measures as the Homestead Act of 1862, but far more often it authorized the wholesale disposal of public lands to speculators rather than to settlers. And what Congress didn't surrender to the land hoarders, the state legislatures, the Land Office and the Interior Department usually did."²

Through the Homestead Act of 1862 those without "get-rich-quick" ideas had a good opportunity to acquire land for their own settlement. This Act, by giving 160 acres to anyone who would live on it for five (5) years opened the West for settlement. More than 200 million acres were settled because of this legislation.

These early years were a time when the commonly held philosophy was one of unlimited growth with unlimited resources. If the land was ruined through bad farming practices or the removal of valuable resources, settlers could always move West and start over again. Although the concept of unlimited land and new frontiers

ended about 100 years ago, the ideas of unlimited growth and unlimited resources are still in evidence.

It cannot be said that no one warned the early Americans about unwise land use and excessive waste. Colonial leaders such as Washington, Jefferson, Patrick Henry, and William Penn warned against wasteful practices, but, as in so many other cases, until the warned-about problem actually becomes reality, large-scale action is not taken. As recently as 1900 when the U. S. had a population of 76,000,000 people, few realized the need for a policy aimed at wise development and intelligent use of the land. But problems began to appear in the denuded hills and overgrazed lands. Reduced reserves of minerals further accentuated the need. It was President Theodore Roosevelt who started a coordinated attack to head off large scale destruction and exploitation of the basic natural resources. In 1908, a conference was held to bring into being a national and statewide action in this area. Forty-nine well-known scientists, industrialists, and publicists were appointed to a National Conservation Commission. They made a quick inventory of the nation's resources. In the wake of this study, a series of treaties, laws, and educational movements were initiated resulting in Federal and State services and organizations existing solely for the purpose of guiding and recommending the best uses of the land.

The country, however, continued to be concerned with development and becoming self-sufficient because a conservation policy was directed toward wise-use, not the hoarding of resources. Two World Wars and an ever increasing population accelerated intensive land use from agriculture to the stringing of electrical lines. The most dramatic shift of land use occurred in the urbanizing of America - the movement from the country to the cities and suburbia. In 1920 there were 10 major urban areas occupying 2.1% of the total U. S. land area.

By 1980 there will be 24 occupying 13.3% of the land. Intensive settling was now adding a new dimension - the land was being taken out of circulation by the growing population's needs for living space and services. Today, with a population of over 200,000,000 people we see new land-use issues arising that are removed from how best to grow crops, prevent erosion, or manage a forest. We are faced with such concerns as providing open spaces, recycling resources, and zoning ordinances. Where is U. S. land-use heading? The U. S. Environmental Protection Agency in July, 1973 offered some projections. They estimate that:

- 19.7 million acres may be consumed by urban sprawl by 2000 - an area equivalent to the states of New Hampshire, Vermont, Massachusetts, and Rhode Island
- 3.5 million acres may be paved over for highways and airports by 2000
- 7 million acres may be taken from agricultural use for recreation and wildlife areas by 2000
- 5 million acres may be lost to agriculture for public facilities, second home development, and waste control projects by 2000
- 492 power stations may be built by 1990 for 200,000 additional miles of power lines.³

Maine

As far as anyone can tell, the first human inhabitants of the land area which is now the State of Maine were the Red Paint People. There is evidence that they were here as early as 1000 A.D. Remains of this group of early Indians show a liberal use of red ochre, a color pigment, which gives them their name, but little else is known. How and when they disappeared remains a mystery.

It is believed that certain groups from the Algonquin Indians of the Ohio area migrated into Maine after the Red Paint People and these are the ancestors of the more well-known tribes such as the Penobscots, Kennebecs, Passamaquoddies, Abnakis, etc. Captain John Smith, who sailed the Maine coast in 1614, made as thorough a study as was possible of the Indian population in what is now Maine. The figure he arrived at was 35,000 to 40,000 people in the entire area. How did they live and what was their attitude toward the land? The following excerpt shows how closely the Indians were to their surroundings and how adept they were in using the resource at their disposal.

"The daily life of the Maine Indian can be appreciated by all who have followed the water-ways of the Maine woods hunting and fishing. The quest for the day's food, the sport of running rapids, the toil of poling up against the current, the fatigue of the carries, the campfire at night, the hearty evening meal and sleep upon beds of fir boughs savage and tourist share in common in the timeless region of the woods. But the Indian was always the busier man. The "lazy Indian" is a figment of the white man's prejudice. Merely to exist, finding himself in food, clothing, shelter, weapons and fire, in a climate as stern as this required constant application. What a labor it must have been to construct a good birch canoe with nothing but stone tools! What a task, among the great trees of the forest, when a stone axe was the only implement, to supply the firewood for even the little Indian fire, to get ash for basket-stuff, to rift maple for paddles, to replace the breakage of spears and lances, bows and arrows, with heads of stone or bone and shafts that had to be true and shapely! Yet the work was done in a way to excite admiration. No doubt after the time when a few

skins would buy the implements he needed, the work of the Indian man fell away, while that of his wife did not; but in the beginning the division of labor was a fair one. Those who did not work in summer could not eat in winter. When the ice broke up there was the spring hunt of beaver and muskrat. Then the fish came up the rivers in millions, and at the foot of every fall men, women, and children scooped alewives and shad; or they caught them in rude weirs. Salmon must be speared when they began to run upstream, and sturgeon must be taken and all these fish must be smoked and dried for winter use. Then they must plant their fields of corn, beans and pumpkins, together in little hills, with an alewife for fertilizer, as they taught the English colonists. When midsummer flies and mosquitoes made the woods unendurable, they all went to the seashore. There in great clambakes they steamed clams, oysters and lobsters and dried them for winter use, packing them away in birch-bark boxes. There they gathered acorns and ground them into meal, or, as Josselyn tells us, extracted oil from them. They got feathers from the seabirds nesting on the islets. They hunted seal and porpoises and tried out the oil, storing it in seals' "pokes," for lack of jars. They even hunted whales. Both Josselyn and Rosier tell of the boldness with which they pursued and captured whales, fastening to them in their frail canoes, with harpoons made of bone and lines made of bark. Berries they picked and dried for winter use. They dug roots of the ground nut and of the yellow meadow lily. When the eels came down stream in the fall they caught them in weirs and dried them in great quantities. Then came the harvest and the fall fur-hunt and all through the winter they worked upon garments, weapons and ornaments, the

making of wampum and baskets, the getting out of basket-stuff and birch-bark, the hunting of large game for fresh meat. By night the wolves howled round their wigwams and on stormy days of winter in their communal long houses, such as Williamson describes, or in their small conical camps of spruce bark, they watched the kettle. The feast preparing might be dried clams or oysters, boiled in water, well seasoned with bear or seal oil, with pounded acorns added to give it a good flavor. The kettle itself would be of birch-bark. Joseph Necolar says so their pottery being too frail and porous for cookery. A great turtle shell or a wooden bowl would be the serving dish. Thus they feasted."⁴

An interesting description of the Maine Indian's environment is recorded by the same Captain Smith on the same cruise mentioned above. He says of Maine:

". . .The waters are most pure, proceeding from the intrals of rockie mountaines; the hearbes and fruits are of many sorte and kindes: as alkermes, currans, or a fruit like currans, mulberries, vines, respices, goosberries, plummes, walnuts, chesnuts, small nuts, &c. pumpions, grouds, strawberries, beans, pease, and mayze: a kinde or two of flax, wherewith they make nets, lines and ropes both small and great, verie strong for their quantities.

Oke, is the chiefe wood; of which there is great difference in regard of the soyle where it groweth, firre, pyne, walnut, chestnut, birch, ash, elme, cypresse, ceder, mulberrie, plum-tree, hazell, saxefrage, and many other sorte.

Eagles, Gripes, diverse sorte of Haukes, Cranes, Gees, Brants, Cormorants, Ducks, Sheldrakes, Teale, Meawes, Guls, Turkies, Dive-droppers, and many other sorte, whose names I knowe not.

Whales, Grampus, Porkpieces, Turbot, Sturgeon, Cod, Hake, Haddock, Cole, Cusk, or small Ling, Shark, Mackerrell, Herring, Mullet, Bass, Pinacks, Cunners, Pearch, Eels, Crabs, Lobsters, Muskles, Wilkes, Oysters, and diverse others &c.

Moos, a beast bigger than a Stagge; Deere, red and Fallow, Bevers, Wolves, Foxes, both blacke and other; Aroughconds, Wild-cats, Beares, Otters, Martins, Fitches, Musquassus, and diverse sorts of sermine, whose names I know not. All these and diverse other good things do heere, for want of use, still increase, and decrease with little diminuation, whereby they growe to that abundance. You shall scarce finde any Baye, shallow shore or Cover of sand, where you may not take many Clampes, or Lobsters, or both at your pleasure, and in many places lode your boat if you please; Nor Iles where you finde not fruits, birds, crabs, and muskes, or all of them for taking, at a lowe water. And in the harbors we frequented, a little boye might take of Cunners, and Pinacks, and such delicate fish, at the ship's sterne, more than sixe or tenne can eate in a daie; but with a casting net, thousands when wee pleased: and scarce any place, but Cod, Cuske, Holybut, Mackerell, Scate, or such like, a man may take with a hooke and line what he will. And, in diverse sandy Baies, a man may draw with a net great store of Mulletts, Bases, and diverse other sorts of such excellent fish, as many as his Net can drawe on shore: no River where there is not plentie of Sturgeon, or Salmon, or both; all which are to be had in abundance observing but their seasons."⁵

By 1623, the first permanent settlement of men, women and children was established in Saco. Earlier attempts at Popham Beach had been unsuccessful. Following was a period of gradual growth and then after 1763 came more rapid influx of settlers. Much of the early Maine land was in dispute because of multiple claims of ownership going back to mother countries. Some residents during this time decided to avoid the hassle and moved West.

The final result of all these disputes, including a boundary war was a state with 33,215 square miles (approximately 20 million acres) of land area, the largest in New England. Today, about 42% of this area is unorganized territory or wildlands. Ninety percent of the state is privately owned. Of the 2% in public ownership, the State owns about two-thirds.

About 88% of the state is forested and approximately 8% is water surface. Roughly one-third of the State is mountainous. Part of the Appalachian Range extends in a swath 50 miles from the southwest corner of the state through Baxter State Park. Most of the state has infertile soils as the result of glaciers and erosion. The notable exception, of course, is Aroostook County. Only 14% of the State is classified as good or fair for cultivated crops. The number of farms has decreased while the average size increased. Following the national urbanization trend, the amount of Maine land being used for urban and built up purposes went from 371,389 acres in 1958 to 628,697 acres in 1967.

A quick overview of population numbers, settlement locations, and trends is as follows:

"Maine's 1970 population was 993,663, a gain of 2.5% from 1960. Most of the people are concentrated in the southwestern third of the state, along the coast, and the upper reaches of the border with New Brunswick. Except for the N.B. border, the northern part of the state and a large part of Washington County have

less than ten persons per square mile. Highest density of population is in Cumberland County with 217 persons per square mile. Androscoggin, York and Kennebec are close runners-up. About half of the population lives on the coast (11% of the land mass), but density is relatively light in the mid and eastern sections of the coast. If the trend toward out-migration is slowed, Maine can anticipate a larger number of persons in the younger work force in the decade ahead.

Population figures are incomplete without including the sharp increase during the tourist season. The volume of tourists increased over 125% from 1960 to 1970. The public visitor-reporting areas logged over five million visitor days in 1970, a 64.5% increase in five years. Heaviest concentration of tourists is in the southwestern region, primarily along the coast. Other concentrations are the mid-coast, the western lakes region, and Baxter State Park.

Because of Maine's proximity to the BosWash megalopolis this increase in tourism is expected to continue. Estimates place the number of visitors per year at 20 million by 1980 and over 30 million by 1992."⁶

In Maine, the manufacturing industry is led, as computed by value of product, by paper and allied products followed by foods, leather, lumber and wood, and textiles. When considering the number of workers employed, leather related industries lead followed by paper and allied products, lumber and wood, food, transportation equipment and textiles.

In 1970, 382,000 persons were employed in the State of Maine with an average annual income of \$6,000 after taxes. Further investigations reveal the following:

"Maine has had a relatively stable population since 1960. In that time the production of goods and

services has increased; so have the number of jobs; so has the per capita personal income; so has the cost of living. The rate of unemployment was the same in 1970 as in 1960; and the number of unemployed was greater (27,500 in 1960; 31,800 in 1971). The percent of families with incomes below \$3000 dropped from 22.8 to 15.1 but is still one of the highest in New England. If \$5000 is used as the cut-off level for poverty because of price increases, 32% of Maine families are below this level. During the period the percent of families with incomes of \$10,000 or more increased four times faster than those under \$3000 declined.

Statistics showing an increasing per capita income and growth in production mask the misery of the poor. Maine's economic growth, costing an unestimated amount in ecological values, is widening the gap between the comfortable and the miserable. The trickledown theory of economic growth has a bitter and uncertain flow for the un- and underemployed."⁷

Responding to Increasing Pressures on the Maine Land

An explanation of how Maine responded to the increasing pressures on the land felt over the U. S. is offered by Elizabeth Haskell and Victoria Price.

"At first, it may seem odd that this New England state, known for its reverence of unfettered property rights, is now one of the most advanced states in land regulation. But Maine also has a sense of place - a timelessness and loveliness unchanged in a changing world, and a most precious commodity on the American scene: undeveloped scenic land.

A recent economic analysis of Maine concludes that the demand for land, for recreational and industrial use, is the "most significant economic

development in Maine in over one hundred years, since the development in the 1860's of mechanical processes for converting low grade wood pulp to paper."⁵ Since the great era of textile and paper-making factories, Maine, even more than the rest of Northern New England, has gradually fallen behind in development, and has remained a place where a sense of privacy and reserve grew, and where a love of open country and a hard life were the lot of most residents. The best-educated young people had to travel south to earn a good living. Because of this economic situation, Maine has an abundance of land that, by American standards, is pure and unspoiled and very much in demand.

Seventy million Americans now live within a 24-hour drive of Maine, and many of those 70 million wish to flee the urban scene and can afford to do so. Maine has the combination of water and predictable snow that guarantees success in the second-home market. The advance guard of the second-home owners, the summer tourist, pours up into Maine regularly and brings home to Mainers the interest of outsiders in their state. These annual migrations, still uncharted or uncounted but clearly enormous, make the year-round residents very much aware of the affluence of the visitors and the mounting costs of land.

A second and most intense pressure upon the land is currently generated by oil companies seeking terminal and refinery facilities to accommodate the deep-draft supercargo tankers now being built. The only natural harbors on the East Coast deep enough to receive these ships are in Maine. Thus, the exquisite Maine coast, long the symbol of the state and its principal lure to visitors, is doubly threatened by uncontrolled land use.

⁵ Maine Manifest, The Allagash Group, Bath, Maine, 1972, page 8.

By 1969 these factors, plus the national ecology boom, combined in Maine to create a strong awareness of the vulnerability of the state. There is almost no zoning in Maine; few of the tranquil coastal towns are willing even to face the necessity for establishing land use guidelines. (In mid-1972 less than 15 percent of the coastal communities had any zoning or land use laws; over 400 of 497 organized towns had no planning organizations.⁶) Unwilling to act locally but fearing exploitation, citizens turned to the state for help.⁸

One source of help came in the form of the Site Selection Act of 1970 which:

"regulates major industrial and commercial developments through permits issued by a Board of Environmental Protection, which also administers the state's other environmental controls. Development conditions can be attached to the permit or the site denied altogether. The Site Location Law is the main part of a package of laws that give Maine one of the most comprehensive state land use management systems in the country. Other parts include three other land use laws - controlling shorelands,² wetlands,³ and undeveloped or "unorganized" regions⁴ - and antipollution laws relating to air, water, solid waste, and mining.⁹

Other attempts to plan and regulate land use in Maine include the Land Use Regulation Commission (LURC) responsible for zoning all unorganized and de-organized areas; the Governor's Task Force on Energy, Heavy

²12 Me. Rev. Stat. Ann. SS4811-4814

³12 Me. Rev. Stat. Ann. SS4701 et seq.

⁴12 Me. Rev. Stat. Ann. SS681-689

⁶John N. Coles, "Recognizing Maine's Value," Maine Times, May 7, 1971, p. 4

Industry, and the Maine Coast, an ad hoc group which recommended suitable sites for industry; as well as various State Departments and private organizations. Throughout all the deliberations, recommendations, and board actions the larger question continually reappears - to what environmental expense is Maine willing to go to stimulate its' sagging economy? The answer is not clear but the following continues to hold true:

"A great many people are now moving to Maine to escape urban life and the problems of industrial development. Native Mainers are caught between rising pressure on land and rapidly inflating land value, rising property taxes, and no increase in available income. While the Mainer has a strong attachment to the land, he does not wish to be impoverished so that refugees from the Northeast corridor can live a life of rural purity. These potential conflicts are beginning to be more apparent as the newcomers increase in number. In many areas, the immigrant's idea of appropriate zoning and control represents an elitist taste that those living in the depressed economy can ill afford and do not desire. Mobile homes and housing developments represent something far different to those who can no longer afford to build on their own land than to one newly arrived from New Jersey. Many of the new arrivals have a strong need to protect their rights of private ownership and "No Trespassing" signs are appearing in areas that have traditionally provided public open space in an area where there is in fact almost no publicly owned open space."¹⁰

Maine will continue to grow. More people will move into the State. More services and products will be needed to support them. It is time to take a hard look at what we are doing to our land and the environmental cost involved in future plans for development and use.

We cannot isolate ourselves and we cannot preserve everything around us but we can interact with the land in a way that shows a balanced approach to meeting both human and environmental needs.

D. Activities - one class period

1. Read Section 'C' - "A Review of Man's Interaction With the Land"
2. Discuss the reading and consider the evaluation questions.

E. Evaluation

To evaluate the student's comprehension of the previous section, you might consider the following questions for discussion:

1. How has man's attitude toward the basic resources changed with his ability to use the resources?
2. List three (3) major issues facing present and future generations with respect to land use.
3. What is your feeling, now that you have read this section, on what should be the real considerations when developing long-range land-use plans?

F. Notes within Content Text

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4. Williamson, William D., The History of the State of Maine, pp. 56-57, facsimile of 1832 edition.
5. Pollard, J. A. Polluted Paradise. Twin Printery, Inc., Lewiston, Maine, 1973. (p. i)
6. League of Women Voters of Maine. Facts and Issues- Land Use: Maine at the Crossroads. League of Women Voters Education Fund, October, 1972.
7. League of Women Voters of Maine. Ibid.
8. Haskell, Elizabeth H. and Price, Victoria S. State Environmental Management. Praeger Publishers, New York, Washington and London, 1973. (pp. 195-6)
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10. Haskell, Elizabeth H. and Price, Victoria S. Ibid. (pp. 208-9).

PART III

A COMMUNITY LAND-USE CASE STUDY

PART III. A Community Land-Use Case Study (Total Community Perspective)

A. Introduction for the Teacher

The town of Phippsburg, Maine, was recently the subject of an intensive study sponsored by the Allagash Group, a private, public service organization dedicated to the future of Maine. The study was conducted for the purpose of informing people about Maine's land-use problems. This phase of the unit draws heavily upon the information produced by the study. The purpose is to give students an opportunity to examine an actual case study of: (1) how a Maine community has developed, (2) the decisions it is facing today and must face tomorrow, and (3) who will make the decisions. Since this town's land-use problems are not unlike those facing many other Maine communities, this phase of the unit will serve to begin to focus the students' thinking on the realities of their own community.

B. Objectives (Student Outcomes)

At the end of this phase of the unit the student should be able to:

1. identify the major factors relating to a community's growth
2. identify the decisions and levels of decision-making which affect community growth
3. evaluate and discuss each decision-making level's roles and responsibilities in determining the growth of a community
4. clarify his own values and attitudes with respect to the importance of his role in determining land-use decisions.

C. Content (for teacher reference)

1. Phippsburg Land-Use Case Study Slide Show (see Appendix 'C')
2. Film "Maineland." (See "Maineland" film Outline in Appendix 'D')

E. Activities

The following activities have been designed to accomplish the purposes described earlier. They are listed in the sequence in which they should be carried out.

1. Slide Presentation (A Community Land-Use Case Study-Phippsburg, Maine)-one class period

This slide presentation prepares the student for viewing and discussing meaningfully the film "Maineland" by setting the natural, social, political and economic scene of Phippsburg. It is factual in approach and will provide a basis for the development of conceptual and values-laden discussions to follow.

Class Discussion (following showing of presentation)

Questions:

- 1) What are Phippsburg land-use problems?
- 2) What physical aspects of the land are involved in Phippsburg's growth decisions?
- 3) What historical events have played a major role in Phippsburg's development and influenced the kinds of problems the community faces today?
- 4) How does the make-up of the population (full-time residents, seasonal residents and visitors)

influence the kinds of problems and decisions in Phippsburg today?

- 5) Who do you think will be making Phippsburg's decisions in the future?

2. Film "Maineland" - one class period

The film "Maineland," which runs for thirty (30) minutes, in contrast to the slide presentation, stresses the attitudes and views of the townspeople, themselves, reacting to and dealing with the changes in their community. The setting is a public hearing sponsored by the Allagash Environmental Institute in which a broad spectrum of people and agencies concerned with land-use in Maine confront the issues as typified in Phippsburg.

As spectators at this hearing the students should be encouraged to observe the following:

- 1) The various levels of decision-making represented.
- 2) The attitudes or view points presented by individuals representing different levels.
3. The nature of the solutions presented.

Class Discussion (following showing of film)

The following suggestions for class discussion are designed to stimulate two levels of thinking. The first set of questions are at the factual and conceptual levels and serve to recap the film. The second set are values questions which encourage the student to clarify his own personal feelings about the values detailed on page 8 of the Introduction to the unit.

You may wish to write the following three factual and conceptual questions on the chalkboard before showing the film so that the students can refer to them or take notes while the film is being shown.

Factual and Conceptual Questions

- 1) How many levels of decision making were represented in the film?
- 2) What land-use values were primarily the concern of each level?
- 3) What effect would the proposed solutions have on the town?

Personal Values Questions

- 1) How important do you feel the quality of the natural environment is to a community?
- 2) How much would you be willing to spend to buy an acre of land for a park to be developed in the year 2020?
- 3) If a zoning ordinance were drawn up to protect the total community's welfare but it limited what you could do on your own land, would you support it?
- 4) Would you support a law requiring larger lot sizes for buildings, thus limiting the number of people in your community or allowing smaller lots which would increase the population and create more opportunities for places for entertainment, eating, etc.
- 5) If changes are inevitable in a community, what is your responsibility?
- 6) Would you prefer to live in a rural setting close to nature with "room to roam?" What do

you think are the long-range consequences if everyone felt as you do?

E. Evaluation

Evaluation is aimed at determining the extent to which the four behavioral objectives have been met.

F. References

Phippsburg: Fair to the Wind, Twin City Publishers

PART IV

SIMULATION OF A COMMUNITY LAND USE ISSUE

PART IV. - Simulation of a Community Land Use IssueA. Introduction for the Teacher

This part of the unit is designed to provide a follow-up to the film "Mainland." The teaching method used is a simulation of a community land-use issue. Also included are elements of gaming and role playing.

Simulations are models of real life situations. The activity in this part is a simulation of a public meeting held by a local planning board to hear community views on the preliminary draft of a shoreland zoning and subdivision ordinance. Within this setting, discussion and debate centers around the zoning of a parcel of land. The conflict involves controlling use of the land to maximize public benefits without creating undue hardship on the private interests who own the land. During the simulation, students assume roles which correspond to those which might exist in the actual situation. Since they compete for the objective of winning a plurality of votes for the zoning classification they desire, gaming is also included. A game is defined as involving competition for specified objectives within certain rules.

In summary, the simulation game described in this part can:

- 1) involve students first-hand in a land-use decision-making process relevant to their own community
- 2) help students learn as participants and spectators
- 3) provide opportunities for social interaction
- 4) mix cooperation and competition in the classroom
- 5) develop understandings, feelings of awareness and concern and skills in problem-solving.

8. Objectives (Student Outcomes)

At the end of this phase of the unit the student should be able to:

1. define the terms zoning ordinance, subdivision ordinance, planning board, conservation commission and plumbing code,
2. describe and participate in a local land-use planning decision-making process involving shoreland zoning, and
3. choose and describe the essential factors to be considered in establishing land-use regulation controls.

C. Content

Prior to June 30, 1974 all municipalities in Maine must prepare and adopt a zoning and subdivision ordinance controlling land uses in an area 250 feet from the normal high water mark of any pond, river and salt water body. Refer to Shoreland Planning - Four Typical Maine Communities for the "Text of the Shoreland Zoning Law Amended" pp. 6-7. For an example of a model ordinance refer to State of Maine Guidelines for Municipal Shoreland Zoning Ordinances. Both are included in the kit of instructional materials.

A zoning ordinance is defined as a legal document dividing the community into districts and limiting the kind of use or activity that may take place on all land and within a given area.

A subdivision on the other hand involves controls which guide the alteration of raw land within the land-use districts established by the zoning ordinance. It is defined as a legal device that regulates the process

of dividing up and developing raw land concerned for setting standards for streets, sewers, water supply, design, open space, etc. Zoning ordinances, by State statute, must be consistent with the comprehensive plan.

A comprehensive plan is defined as a compilation of goals, standards, maps and information on the community's natural and human resources with recommendations on ordinances, housing, safety, etc.

The two sections of a shoreland zoning ordinance which deal with the location, construction and operation of a particular land use activity on a particular piece of property are:

1. That which identifies land use districts and district requirements; and
2. That which sets forth the standards of performance for all land use activities.

Land use districts may be used to accomplish a desirable pattern of land use by regulating the type, density and distribution of activities which may occur in a given area. The delineation of these districts on a map and the assignment of a range of appropriate land uses is not alone sufficient to assure environmental protection and quality development.

Almost any use of land, if conducted carelessly, will be detrimental to either the environment or to existing development. Performance standards are, therefore, included in a zoning ordinance as a set of "quality controls." Thus, for example, all residential development, regardless of what district it is in, must meet minimum standards for sanitary waste disposal. All development requiring parking facilities must meet minimum space and access requirements according to the amount and frequency of automobile use anticipated.

All timber harvesting within 250 feet of the shoreline must be conducted so that a well distributed stand of trees is retained. Land use district requirements may expressly permit or prohibit a particular type of activity in a given area. Performance standards do not specifically prohibit any type of activity if that activity cannot be economically constructed or operated while at the same time meeting the performance standards.

Performance standards should be written in very specific terms so that a technical review can determine whether a land use proposal meets the standards or not but sometimes this is impossible to do. Sometimes, it is necessary that judgment decisions be made by the zoning board of appeals as to whether the proposal meets performance standards or not. Then it is important that the zoning ordinance include a statement of the kinds of values to be considered in their determination.

Both land use districts and performance standards are developed with the aim of assuring that future development is compatible with the natural environment and with the ability of the existing pattern of man's activities within the community to sustain such use without degrading the quality of either. The state has determined that certain areas (lands within 250 feet of the shorelines of ponds, rivers and salt water bodies) are being overtaxed in terms of their natural abilities to support man's activities and that it is in the public interest to control the use of these areas in order to prevent the deterioration of those qualities which provide for their enjoyment and use.

Certain types, densities and distributions of activities in these shore areas and certain aspects of their construction and operation have been indicated in the "Interim Guidelines" as those types of issues which must be effective. The standards set forth in these guidelines may be regarded as minimum regulations which serve an overriding (statewide) public interest.

Within any particular community the local public interest may be better served by regulations which exceed or are more specific than these. It is in deciding what range, density and distribution of land uses will be permitted within the shorelands and within the community as a whole that local concerns are particularly expressed.

Land use districts are created for a reason: to accomplish a desirable pattern of land use. The desirable pattern is that which is in the best interest of the community. This interest must be identified by any municipal group which takes on the responsibility of preparing land use ordinances and presenting them to the voters.

Always there will be questions as to why some activity is expressly permitted, prohibited or subjected to review answered in terms of the community interest to be served where another activity is not. The questions must be by such regulation. Perhaps the interest has been inaccurately identified and a broader range of permitted land uses will be found more acceptable for a particular district. This identification and affirmation of public purpose through public information meetings, discussion groups with landowners and other special interest groups, etc., is necessary for successful local ordinances.

D. Activity - A Simulation of a Community Land-Use Issue -
two to three class periods

1. Community Overview - GRANDVILLE

Physical Grandville on the Grand River
Newage Lake
Somewhere in Maine
Hilly
80% Forested

Social 5600 people
 80% live in urban center by outlet

Economic 2 large industries
 furniture factory (600)
 heavy construction (20)
 sheet metal (6)
 pre-fab cabin plant (25)
 middle class/cross section
 tourism related

Political 3 selectmen with town manager
 planning board
 conservation commission
 Parks & Recreation Department
 Water District

2. Land-Use Issue

The State has required all communities to zone all the land within 250 feet of the high water mark of all rivers, ponds, lakes, and coastal areas. A public information meeting has been called by the planning board to seek community ideas on how to zone the area shown by the maps.

The issue: how should the town zone the Grand River Corridor from where it enters the town to where it enters the lake.

The town owned land (see map) is presently undeveloped, serves as a picnic area, and long-range plans call for it to become a town park.

The opposite shore is owned by a private party and is also presently undeveloped (see map). They hope to put a sporting goods store and marina on the river and to build Grand River Estates, a plan calling for 8 dwelling units/acre with high sale value and located within 75 feet from the water (see proposed plan).

The land on both sides is quite similar being characterized by steep banks, erodable soils, shallow depth to bedrock, and drains fast. Vegetation is quite dense and varied.

The Grand River forms a series of falls at the bottom of which is a deep pool. It is classified as B-1 (the second highest possible rating and provides excellent habitat for trout and other organisms requiring high water quality.

In zoning the strip of land, the Planning Board has three alternatives. (1) Resource Protection District (RP) see section 9, pg. 2 of the State of Maine Guidelines for Municipal Shoreland Zoning Ordinances; (2) General Development District (GD) see section 9, pg. 3 of the same book; or (3) Limited Residential-Recreational District (LRR) see section 9, pg. 3 of the same book. See pages 3 and 4 of the same book for outline of permitted uses in each District.

It is hoped that after hearing the public's comments at the informational meeting that a satisfactory zoning classification can be made.

3. Suggested Key Roles Bearing on the Decision

a. Planning Board Members (5-7)

Charged with the responsibility of:

- a) setting up criteria on which to make decision
- b) hearing arguments
- c) zoning the corridor

Roles include:

Planning Board Chairman

Other Planning Board Members

b. Other Citizen Roles:

President of Grand River Estates
Planner/Consultant for Grand River Estates
Local Contractor
Local Store Owner
Factory Owner
Local Accountant
Conservation Commission Chairman
Sports Fisherman
College Professor

4. Carrying Out the Simulation

- a. Determine roles
- b. Students with roles not on the Planning Board must decide which zoning classification they prefer.
- c. Prepare for the Public Information Meeting (rest of the period)
 - a) Planning Board Members
 - develop criteria that will be used in judging the merits of each argument based on the needs of the community and the characteristics of the land.
 - b) Advocate Groups (one for each of the three zoning districts)
 - composed of roles favoring the same zoning district
 - develop presentations defending the zoning classification which they favor. Each Advocate Group gets 5 minutes to make the presentation. This can be done by a spokesman or individuals within the group.
 - visual displays or handouts should be used to make presentations more effective
 - references are included for their use in this stage

c. Holding the Meeting (first 30 minutes of next period)

- a) Planning Board sits in front of room at a table
- b) Chairman of the Board (elected by Board members):
 - 1) calls meeting to order
 - 2) appoints a time keeper (he gives 1 minute warning)
 - 3) calls for questions after each presentation (1 minute)
 - 4) calls on each group to speak

d. Making the Decision (5 - 10 minutes)

- a) Planning Board retires to make its decision in another room
- b) while Board is deliberating each group should list the considerations that the Board should be concerned with and their priorities.

e. Announcing the Decision

- a) Board announces decision and reasons why
- b) they read their criteria to the groups.

f. Follow-Up Discussion

Suggested areas for discussion:

- a) Did the Board satisfy everyone's concerns?
- b) How does this compare to how decisions of this type are actually made in your community?

- c) What additional information could your group have used to make more effective arguments?
- d) etc.

E. Evaluation

Evaluation of this part can actually serve as a post-test for the entire unit. In this respect, if the teacher wishes, it is suggested that one period be taken following the simulation activity to have the students vote by secret ballot on the simulated issue. The ballot may be introduced as also incorporating questions which will provide the planning board with information to assist them in drafting a final ordinance plan which more accurately reflects the desires of the community.

In actuality, the ballot will contain many questions given in the pretest. The teacher may then compare the responses with the pretest answers and judge the results of the unit.

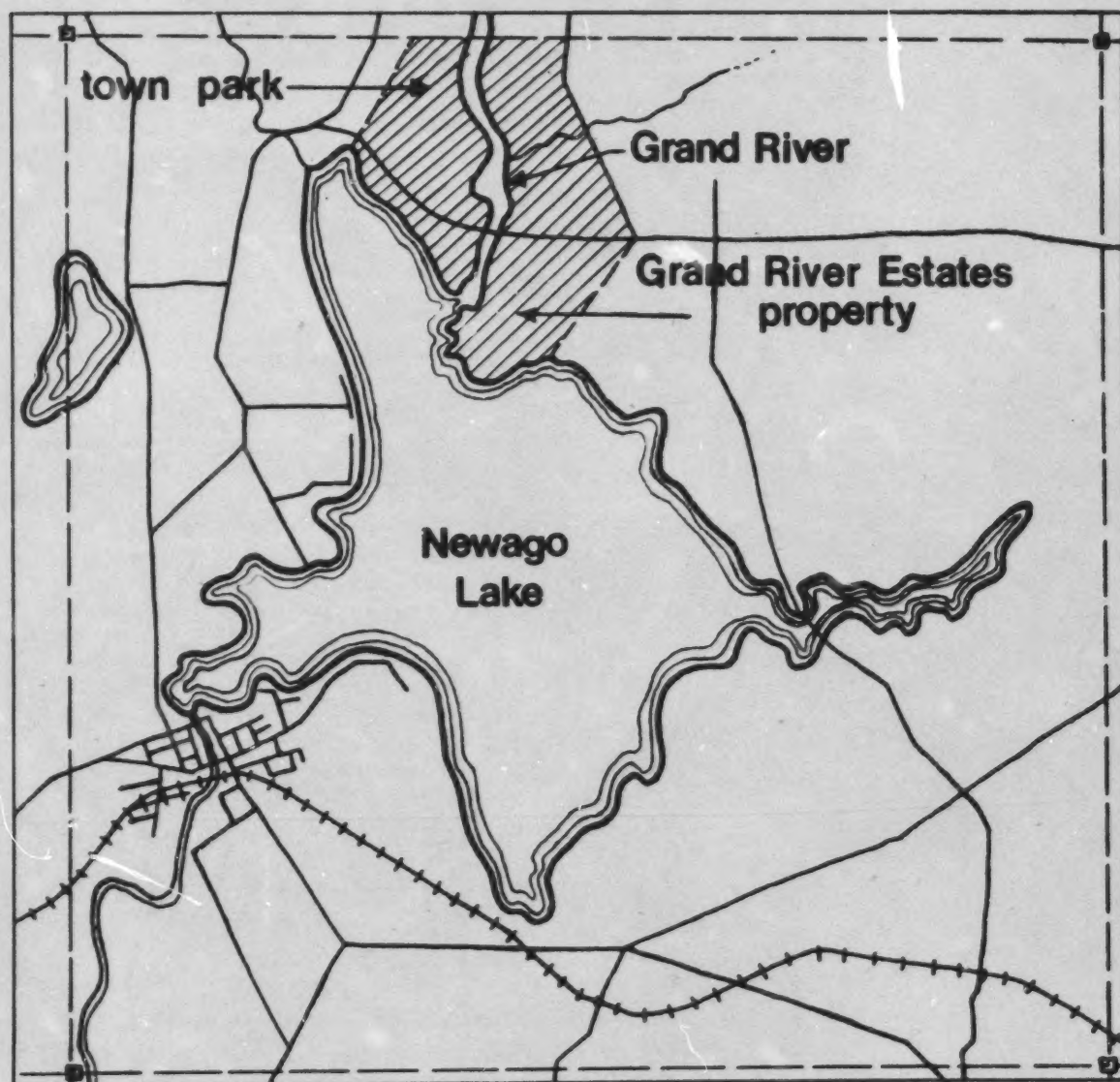
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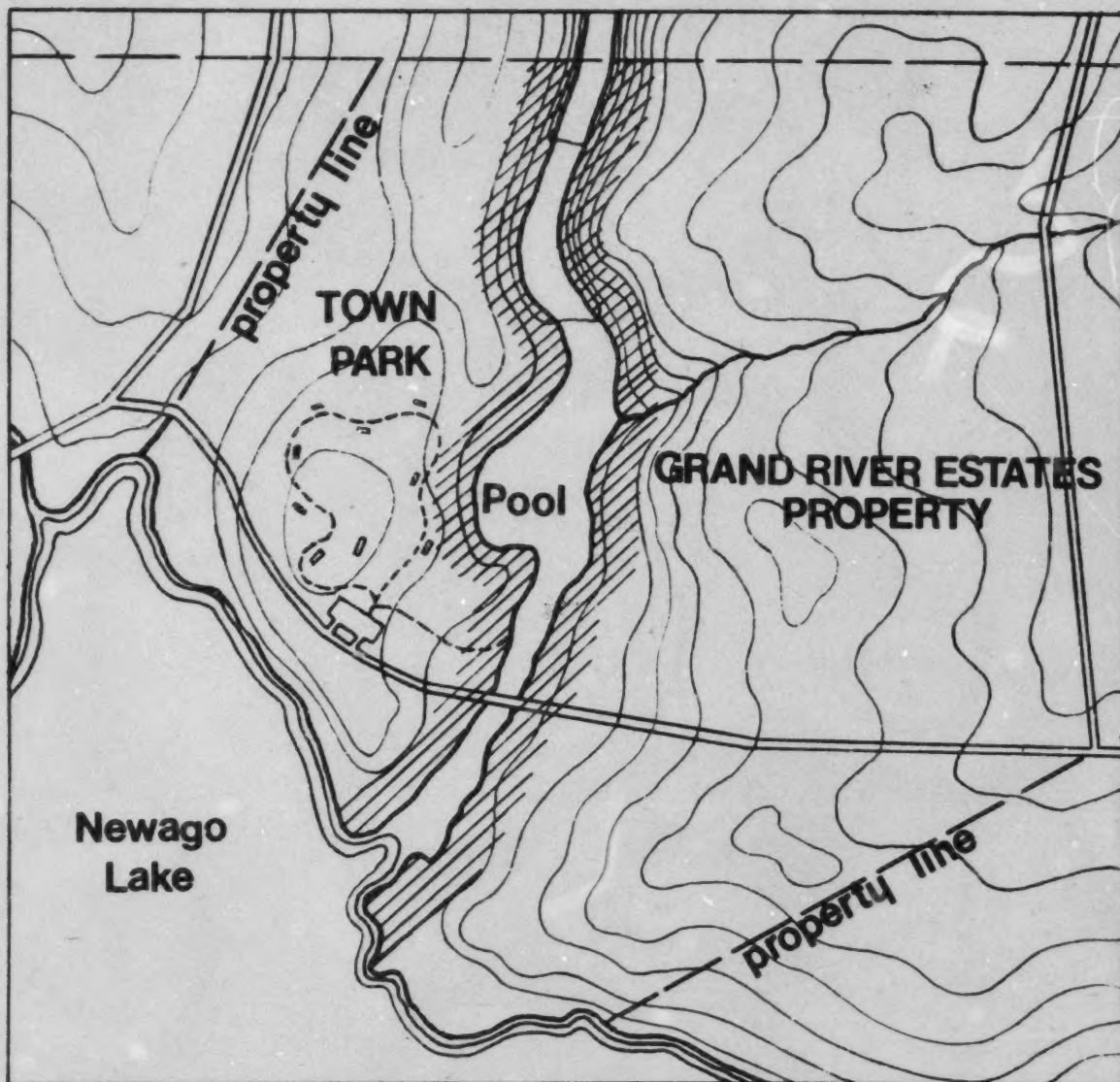
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GRANDVILLE
scale: 1" = 5,000'



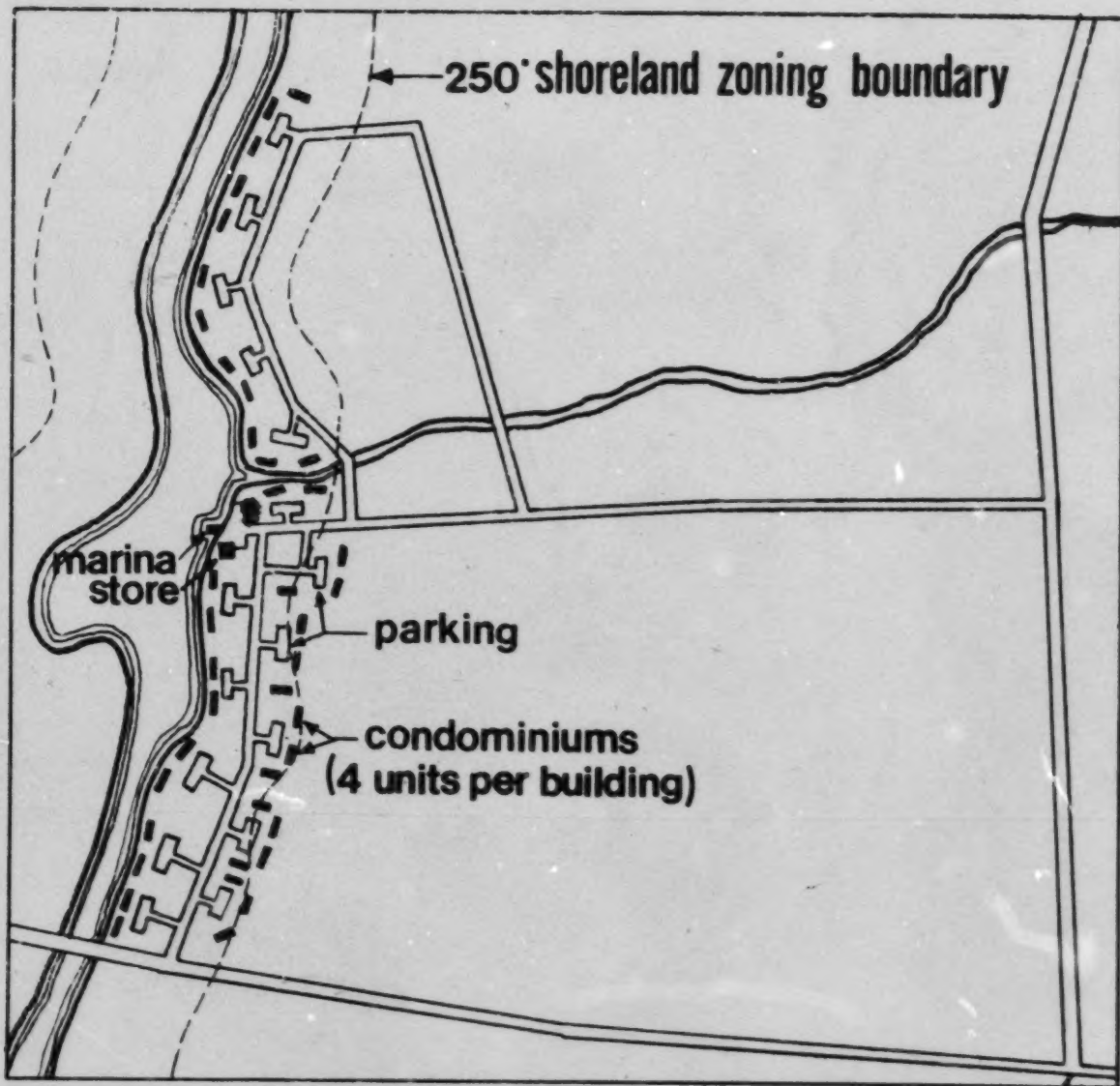
area of zoning debate



Area of Zoning Debate

scale: 1" = 1,000'

20' contour interval



**GRAND RIVER
ESTATES PROPERTY**
scale: 1" = 500'

PART V

FOLLOW-UP CONSIDERATIONS

Follow-up Considerations

It is not uncommon when dealing with land use issues and problems along with surveying and clarifying attitudes and values for the students to become intensely interested in their own local situation. Therefore, the following could serve as outlets and productive extensions of the unit.

1. Develop a simulation around a real local land use issue.
2. Research the way land use issues are resolved in the local community.
3. Present the results of the COMMUNITY ATTITUDE SURVEY and the goal statements as a class opinion to governmental leaders.
4. Consider a real parcel of land in the community and hypothetically plan for its best use.

PART VI

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PART VI Selected Bibliography

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A P P E N D I X A

COMMUNITY ATTITUDE SURVEY
(pretest)

and

Shoreland Zoning
PUBLIC MEETING BALLOT
(post-test)

COMMUNITY ATTITUDE SURVEY

Community Resident:

Your local Planning Board is in the process of gathering data and reviewing model documents prior to developing a Master Plan and related ordinances.

State law now requires that we formalize a "statement of community goals governing official community decisions on growth and development" as a prerequisite to a Plan.

The Planning Board would like to encourage your comment and participation in this process of guiding your community's future growth. Your interest can be demonstrated by completing and returning this survey form, unsigned, and by attending a public hearing at which time the results of this community-wide survey will be discussed.

1. How long have you lived in the community? _____
Years

2. Employment status:

a. Name the community where you or the person upon which you are financially dependent is employed _____

b. Check if you are:

- 1) a homemaker _____
- 2) unemployed _____
- 3) retired _____
- 4) self-employed _____
- 5) in school _____

3. Rate the extent you agree with the statement below.

Our community should have land-use regulations which would help guide its future development.

1 2 3 4 5
Strongly Disagree Disagree Undecided Agree Strongly Agree

Arrow indicates desired direction of answer.

The Planning Board is, in preparation for a community workshop, interested in learning the extent of the need to increase citizen understanding of land-use planning. To assist in this, please match up the following placing the letter of the correct definition in the blank.

- | | |
|---|--|
| <u>E</u> 4. Comprehensive Plan | A. A legal municipal agency of appointed members with responsibilities to advise the community on open space, to carry out a natural resources inventory, educate the public, etc. |
| <u>A</u> 5. Conservation Commission | B. A state document describing rules for water supply location, percolation tests, drainage and sewage controls, etc. |
| <u>C</u> 6. Subdivision Control Ordinance | C. A legal device that regulates the process of dividing up and developing raw land-concerned for setting standards for streets, sewers, water supply, design, open space, etc. |
| <u>B</u> 7. Plumbing Code | D. A legal municipal agency of appointed members with responsibilities for land use control activities and ordinances including zoning and subdivision controls. |
| <u>D</u> 8. Planning Board | E. A legal document dividing the community into districts and limiting the kind of use or activity that may take place on all land and within a given area. |
| <u>E</u> 9. Zoning Ordinance | F. A compilation of goals, standards, maps and information on the community's natural and human resources with recommendations on ordinances, housing, safety, etc. |
| G. An official map of the community showing all cultural features including highways, current land uses, etc. | |

10. What do you feel are the three most important ways land is valuable to you and other citizens?

a) _____

b) _____

c) _____

For each of the following statements circle the number which indicates how much you agree with the statement.

- | | STRONGLY
DISAGREE | DISAGREE | UNDECIDED | AGREE | STRONGLY
AGREE |
|--|----------------------|----------|-----------|-------|-------------------|
| | 1 | 2 | 3 | 4 | 5 |
| 11. There is really enough land for everyone on earth. | | | | | |
| | ← | | | | |
| 12. The land in one community is likely to be pretty much the same in its physical (texture, color, etc.) characteristics and in its chemical (acidity, fertility, etc.) characteristics as a neighboring town. It is more apt to vary over large areas such as between several communities. | | | | | |
| | ← | | | | |
| 13. The amount and quality of water in our lakes and streams may be greatly affected by our use of the land. | | | | | |
| | → | | | | |
| 14. A land problem often exists when its value to us is decreased. | | | | | |
| | → | | | | |
| 15. Since land values change slowly, we should take plenty of time to make sound decisions on land use controls. | | | | | |
| | ← | | | | |

16. Growth in numbers of people in our community can make it more difficult for some people to afford land. 1 2 3 4 5

17. What kind of qualities we possess as human beings is just as an important cause of land use problems as how many of us there are. 1 2 3 4 5

18. We should increase property taxes on our lands to force their better use. 1 2 3 4 5

19. Below is a list of possible actions the Planning Board can take in making land use decisions. Number what you feel is the first action the Board should take.
- ___ a. Find out how many new people will be needed in government to implement the solutions.
 - ___ b. Survey how the citizens feel about each proposed solution.
 - 1 c. Inventory and map the natural features to be affected such as soils, slope, water areas, etc.
 - ___ d. Investigate to determine how much new money will be generated in the community.
 - ___ e. Turn over all decisions to experts in the state government agencies.

To help the Planning Board decide what are the most important questions to ask when deciding on how to prevent and resolve land-use problems, rate each of the questions listed below indicating the extent you feel it is a good question to ask.

		VERY POOR	POOR	UNDECIDED	GOOD	EXCELLENT
		1	2	3	4	5
20.	Will the solution help improve the education of people by requiring a program to inform the public about it?	1	2	3	4	5
			←			
21.	Will the solution cause the problem to be resolved in time to be sure that the public benefits as much as it can?	1	2	3	4	5
			→			
22.	Will the solution stimulate people to cooperate with each other more than they do now?	1	2	3	4	5
			←			
23.	Will the solution add more homeowners to the area, thus contributing more income to the community through taxes?	1	2	3	4	5
			←			
24.	Will the solution be a balanced one-protecting the rights of individuals yet in the best interest of all people?	1	2	3	4	5
			→			
25.	Will the solution provide long-range benefits and not place an undue burden on future generations?	1	2	3	4	5
			→			
26.	Will the solution tend to satisfy interests which might disagree and protest causing turmoil in the community?	1	2	3	4	5
			←			
27.	Will the solution after it is put into effect remain flexible in meeting rapidly changing needs?	1	2	3	4	5
			→			
28.	Will the solution take into account the limitations of the land to different uses?	1	2	3	4	5
			→			

Indicate below the extent you agree with the following statements on roles of individuals and groups in society to help solve land-use problems.

- | | | STRONGLY
DISAGREE | DISAGREE | UNDECIDED | AGREE | STRONGLY
AGREE |
|---|---|----------------------|----------|-----------|-------|-------------------|
| The <u>individual</u> should: | | | | | | |
| 29. | Stay out of land-use problems which do not affect him directly. | 1 | 2 | 3 | 4 | 5 |
| | | ← | | | | |
| 30. | Recognize that land-use decisions frequently require expert judgments and should be left almost exclusively to trained specialists and planners. | 1 | 2 | 3 | 4 | 5 |
| | | ← | | | | |
| The <u>community government</u> should: | | | | | | |
| 31. | For efficiency in use of time and money make most land-use decisions rather than seek citizen views through public hearings and referendum voting. | 1 | 2 | 3 | 4 | 5 |
| | | ← | | | | |
| 32. | Avoid land-use laws and procedures which would limit what an individual could do on his own property. | 1 | 2 | 3 | 4 | 5 |
| | | ← | | | | |
| The <u>regional government</u> (such as a regional planning commission covering several communities in a watershed) should: | | | | | | |
| 33. | Be able to over-ride or veto community decisions which are not in the best interest of the region. | 1 | 2 | 3 | 4 | 5 |
| | | ← | | | | |
| 34. | Promote the cooperation of communities in resolving common problems. | 1 | 2 | 3 | 4 | 5 |
| | | → | | | | |
| The <u>state & federal government</u> should: | | | | | | |
| 35. | Leave all land-use decisions up to the communities, themselves, since they are the closest to them. | 1 | 2 | 3 | 4 | 5 |
| | | ← | | | | |
| 36. | Recognize that local governments often are not motivated to protect all land values of benefit to the public and, therefore, step in with laws affecting local communities. | 1 | 2 | 3 | 4 | 5 |
| | | → | | | | |
| The <u>private organization</u> should: | | | | | | |
| 37. | Not interfere in land-use problems since they usually advocate a biased point of view. | 1 | 2 | 3 | 4 | 5 |
| | | ← | | | | |

- | | | STRONGLY
DISAGREE | DISAGREE | UNDECIDED | AGREE | STRONGLY
AGREE |
|-----|---|----------------------|----------|-----------|-------|-------------------|
| | | 1 | 2 | 3 | 4 | 5 |
| 38. | I would support with time and money efforts to preserve open-space natural areas even if I had further to go to stores, etc. | | | | → | |
| 39. | An individual should have the right to do what he wants to with his own land so long as he is the sole owner. | | ← | | | |
| 40. | There probably would be no bad effects if everyone wanted to live close to nature with room to roam. | | ← | | | |
| 41. | The planning board should spend most of its energy in planning ways to deal with current problems rather than anticipating changes that might not occur anyway. | | ← | | | |
| 42. | Since future generations are likely to be better able to handle problems than we are, we should spend more time helping ourselves. | | ← | | | |
| 43. | How would you like to see your community grow? | | | | | |

(Check one)

Not at all _____

Very slowly _____

Undecided _____

Moderately _____

Rapidly _____

44. What do you like most about your community?

45. What do you dislike most about your community?

46. Rank the following land uses in the order which you feel they should be encouraged or valued in the community:

(Place a one (1) beside the one you feel should be given highest priority, two (2) for the second priority, etc.)

Residential	_____
Commercial	_____
Industrial	_____
Institutional (school, library, government buildings)	_____
Recreational	_____
Agricultural	_____
Open Space	_____

To further assist the Planning Board in finding out the need for a land-use planning workshop please read the following hypothetical problem and answer the questions.

You have three acres of land covering 900 ft. of waterfront on a deep lake in Maine. You would like to develop it into three seasonal or year-round homes. You also wish to do, by yourself, as much of the planning and development as you can in order to help keep expenses down.

47. From the list below circle the most important information you should have.
- a. The names, addresses of the neighbors to your property and the amount of land owned by them.
 - b. The records showing the high water depths along the shoreline and water table depths on the property.
 - ☒ c. A copy of the shoreland zoning ordinance, if one exists.
 - d. An estimate of costs to service the lots with a road and electricity.
48. Circle below what you would consider to be the two best questions to ask to judge the suitability of your land for such a development.
- a. What is the water quality classification for the lake water?
 - ☒ b. What is the kind of soil and its depth?
 - c. What are the locations of the best scenic views?
 - ☒ d. What is the slope of the land?
 - e. What are the minimum lot requirements?
 - f. What vegetation exists which should be protected?
 - g. Where should the buildings be located?
49. An acre of land has become available in the center of your town to be used as the town wishes. It is heavily wooded and contains several large oak and maple trees. A business man has offered the town \$20,000. to use the site for a large food chain restaurant. The local village improvement society wants to use it as a park.

Number below, in order, the 3 steps you think the local officials should carry out. You do not have to use all the steps listed.

- _____ Have each of the two interested parties present their plans in detail and then make a decision.
- 1 Have a thorough inventory of the site made including its natural features, past uses made of it, etc.
- 2 Solicit ideas on its use and have alternative plans presented from all interested parties at a public hearing.
- _____ Engage a planner to make the final decision and draw the plans for its use.
- 3 The officials make the final decision but only after considering carefully the consequences of each alternative solution.

Note on analyzing rating questions:

Arrow (→) indicates the generally accepted shift in direction desired when scoring student outcomes after participating in the unit.

Shoreland Zoning

PUBLIC MEETING BALLOT

Dear Citizen:

This ballot is designed to allow you to present your views on the recent shoreland zoning issue. In addition, the several other questions will provide the Planning Board with information helpful in assessing the thoughts and interests of the community citizenry.

How should the shoreland within 250 feet of the high water mark on both sides of Grand River be zoned? (check one)

1. ☐ Resource Protection District
2. ☐ Limited Residential-Recreational District
3. ☐ General Development District

A P P E N D I X B

A COMMUNITY LAND-USE CASE STUDY

PHIPPSBURG, MAINE

(Content and Slide Presentation)

A COMMUNITY LAND-USE CASE STUDY
PHIPPSBURG, MAINE
(Content and Slide Presentation)

HISTORY

Slide 1	Title
Slide 2	Credits
Slide 3 MORSE RIVER	The recorded history of Phippsburg is in many ways typical of Maine's coastal towns, although it began earlier than most. Some findings suggest that a Viking settlement flourished briefly in Phippsburg hundreds of years before the first English arrived. And the Abenaki Indians lived hard and unrecordec lives for hundreds of years before either Vikings or English arrived.
Slide 4 HISTORIC POPHAM	Popham was first settled by Europeans in 1606, three months after the landing in Jamestown, Virginia.
Slide 5 SHIP- BUILDING	The first winter was so severe, however, that the survivors turned their energies to building the first transatlantic schooner ever constructed in this country - The Virginian. Having completed this historic task, they promptly used the vessel to sail for England, never to return to these shores.
Slide 6 PROCESSING SEA FOOD	About thirty years later, more English arrived and began the difficult task of imposing European civilization on a basically hostile land.

Slide 7
OLD VILLAGE
SCENE

The coastal waters and rivers served as roads connecting small settlements and family compounds that gradually developed into townships. People made their living from the sea, supplemented by the produce from family gardens and livestock.

Slide 8
INDIANS

They were also subjected to frequent attacks by Abenaki Indians and towns were often abandoned only to be resettled after a few years by the hardier survivors. The conflicts with the Indians - which troubled Phippsburg's citizens until early in the 18th century - stemmed largely from a basic difference of opinion about land-use. The Indians had no concept that land could be "owned" the way a horse or a bow could be. When they sold land to the newcomers they thought of it only in terms of letting them hunt on the land.

Slide 9
INDIANS

When the settlers began to clear the land and try to keep the Indians off, the Indians were angry at what they thought of as a violation of the agreement. The settlers responded in kind over what they thought of as "going back on a deal." Villages were burned and lives lost - on both sides - over a matter that could have been resolved peaceably had the two cultures achieved real communication.

Slide 10
EARLY
COMMUNITY

As time passed and the community grew, it settled into a long period of relative prosperity and stability.

Slide 11
HORSE &
BUGGY

Roads connected the townships, schools were built and taxes collected and the townmeeting form of government solved the town's problems, as it does today.

Slide 12
SHIP-
BUILDING

Shipbuilding was always an important part of Phippsburg life. Local lumber was easily available and their ships were noted for soundness and fine craftsmanship.

Slide 13
OLD
SCHOONER

The great shipbuilding era, however, began in the early 1800's and lasted until 1921 when the last four-masted schooner built in America slid down the ways into Dromore Bay.

Slide 14
EARLY
INDUSTRY

Other major industries of the 19th and early 20th centuries were the sawmills, centered around Winnegance, and ice-cutting. Phippsburg lumber was carried by ship to Boston and New York until 1910 when fire destroyed most of the sawmills.

Slide 15
THE
WINTER
COAST

Ice-cutting was an important winter activity before the days of refrigeration. Giant icehouses, with slides as long as a half mile leading down to the bays, supplied shiploads of ice for South America and the West Indies.

Slide 16
OLD
BUILDINGS

From the early 1800's to the beginning of the 20th century, the Phippsburg peninsula enjoyed thriving times. The community's strength resided in its self-containment. The graceful schooners that slid down the ways were built by Phippsburg men of native timber cut in local sawmills.

Slide 17
OLD
FARMHOUSE

Houses, designed with an eye to the weather and coastal view, were constructed of pine and oak from Phippsburg's timberland and of granite from the Winnegance Quarry.

Slide 18
OLD
GRANGE
HALL

Icehouses, small schools and churches, dance halls and resort hotels were erected and staffed by local people. Social life was centered primarily in the granges, the church socials and barn raisings.

Slide 19
EARLY
HOTEL

In the 1800's Phippsburg was indeed self-contained but far from isolated. Ships from exotic southern ports sailed into Phippsburg's harbors to load up with ice, hardwood and salt. Visitors from Boston arrived by the hundreds at the Federal Pier now rotting near the Coast Guard Station. One thousand at a time were accommodated at the peninsula's largest hotel, the Riverside.

Slide 20
FARMHOUSE &
GARDEN

Although most people lived and died in Phippsburg's town without ever leaving the immediate area, their contacts with the outside world were plentiful, their lives busy and prosperous.

Slide 21
CART &
OXEN

The early 1900's were a period of economic decline for Phippsburg.

Slide 22
MAN &
BOAT

No new industries came in to replace shipbuilding, sawmills or ice-cutting, and only fishing remained as a continuous activity. Even that pattern changed as the great Atlantic salmon runs died out.

Slide 23
BOAT &
FISHERMAN

People turned from deep-sea fishing to coastal lobstering and dragging for shrimp, whiting and most recently, sea moss.

Slide 24
FISHERMAN &
SMALL BOAT

Small seafood processing plants provided summer employment for women and teenagers.

Slide 25
POPHAM
BEACH
SIGN

Tourism continued, however, mostly in the form of summer residents. Many of them had been coming for generations and have since built permanent homes in the area. They require services from the town and provide tax money in return. In general, the economy remained stagnant from the early 1900's until about 10 years ago when an increase in population created an influx of short-term

tourists into the area. The formation of the State Park at Popham has, of course, increased both the benefits and problems of this form of tourism.

PHIPPSBURG TODAY

Slide 26
PHIPPSBURG
MAP

Coastal Phippsburg has for years lured long processions of cars off Interstate 95 onto Route 209, a two-lane winding road to the sea. In winter months 209, bordered closely by trees and houses, carries mainly moderate weight of commuters from Winnegance and Phippsburg Center who, for the most part, earn their living in Bath or Brunswick.

Slide 27
AERIAL
VIEW OF
PHIPPSBURG
CENTER

Phippsburg has a population of slightly over 1,000 which has increased by only 100 or so since the 1960 census. The peninsula covers a length of 12.5 miles and an average width of 3 miles.

Slide 28
CAUSEWAY

The township begins at a land-filled causeway in Winnegance. Basically a suburb of Bath, Winnegance boasts the only remaining small lumber yard in the town.

Slide 29
SCHOOL

Continuing south, Route 209 passes Phippsburg Center and the Elementary School, which also houses the town government. Residents of the Center are mostly commuters, although some are employed in local services. Some people still refer to Phippsburg Center as "The Gold Coast" -- indicating the generally upper middle class nature of its present residents.

Slide 30
AERIAL
VIEW OF
AREA

Leading off to the west of 209, narrow roads cut to Campbell's Pond - a tourist cottage area held in common with West Bath, and to the Basin area. The Basin is almost entirely undeveloped, has a protected deep water harbor, and for both of these reasons is considered a special and unique environment.

Slide 31
COASTAL
SCENE

North of the Basin is the Brightwater Association, a summer cottage group composed of private stockholders of considerable means; their aim is to maintain this tract of land as a primitive refuge from the cities.

Slide 32
WEST
POINT

To the southwest, the road branches to Sebasco and West Point, where Phippsburg's only other year-round stores are located. Both communities have been traditionally viewed as picturesque but poor fishing villages. In reality, however, these settlements contain a number of upper and middle-income residents.

Slide 33
SEBASCO
LODGE

Sebasco Lodge (the town's largest taxpayer) is the largest luxury resort remaining on the peninsula. The Lodge is a complex of 50 buildings on a 648 acre site, and has a \$50,000 local payroll.

Slide 34
UNDEVELOPED
LAND

Large tracts of undeveloped land characterize both West Point and Sebasco, and the owners of the Lot's have considered condominium development. Should this become a reality, several new services, including a supermarket, drugstore, all-season restaurant, entertainment facilities, may have to be created where none now exists.

Slide 35
CAPE
SMALL
COTTAGES

To the south, Route 216 leads to Cape Small at the end of the peninsula, and a variety of coastal settlements. Cape Small is the location of a colony of cottages, which are built at the owner's expense on leased land. This kind of set-up is a means of allowing many people of modest income cottages near the sea.

Slide 36
HEAD
BEACH

Head Beach, which connects the cottage complex with Hermit Island campgrounds, is the only beach in Phippsburg remaining open free of charge to town residents, although there is a charge for use by the general public.

Slide 37
CAMPGROUND

The Cape Small area is also the site of two major campgrounds, with a third owned by the leasor of the cottage complex, both owners still maintain large acreages of undeveloped land.

Slide 38
COASTAL
SCENE

To the east, Sprague and Morse Rivers bound the only major undeveloped private beach of the municipality. Held by the owners of the Morse Mountain property to the north, the scenic beach is a mile and a half in length.

Slide 39
BEACH
SCENE

Most tourists in the area are unaware of the existence of Morse Mountain. They continue east on 209 to Popham State Park, where, for 50¢ per car, they can enjoy what may be Maine's most beautiful beach, commanding a spectacular view of the open sea.

Slide 40
AERIAL VIEW
OF FORT
POPHAM

Families are also attracted to Fort Popham, as well as to the rental cottages and the two small campgrounds in the area.

Slide 41
FORT
POPHAM

Returning north from Popham, one fork of 209 passes Atkins Bay and the village of Parker Head, a community of retired people, clam diggers, summer residents, and commuters.

Slide 42
PARKER
HEAD

Almost no development is visible from the road until the loop returning to Phippsburg Center has been completed. Scattered cottages along the Kennebec are divided by considerable open space.

Slide 43
COASTAL
SCENE OF
PHIPPSBURG
CENTER

Although Phippsburg's land presents development problems (being composed primarily of ledge, clay and marsh), the potential for seasonal or year-round housing will be enhanced as domestic and industrial pollution problems are dealt with. Bath's secondary sewage treatment plant and enforcement of chemical pollution regulations should have positive effects for new development along the Kennebec and New Meadows.

Slide 44
TABLE OF
FAMILY
INCOMES

The town's economic base comes largely from property taxes levied on summer residents and out-of-state owners. Permanent residents contribute through incomes from the Bath Iron Works, incomes generated by recreational facilities and services, and the fishing industry.

Slide 45
VILLAGE
SCENE

There are about the same number of non-resident as resident tax payers, but non-residents account for nearly twice as much in real estate taxes paid to the town.

Slide 46
FISHING
BOAT

The income of the fisherman ranges from an approximate \$4,000 annually earned by clam diggers, to a possible \$30,000 for the well-equipped dragger. Both fishermen and employees of tourist services commonly supplement their incomes with second, or even third jobs.

Slide 47
"FOR SALE"
SIGN

Until recently Phippsburg's growth was guided by private rather than municipal decisions as to how land would be used. Generally, local residents did not feel threatened by the possibility of uncontrolled development, nor did they reveal much concern about those large tracts of land still on the market.

Slide 48
OUTDOOR
RECREATION
STUDIES

The role of the state in further acquisition of land in Phippsburg is expected to be limited or non-existent. A 180 tract is on the acquisition list of the State Park and Recreation Commission, but the agency has given it a low priority.

Slide 49
COMMUNITY
HALL

The people of Phippsburg have now voted in a Planning Board, a Conservation Commission, and Building Code. The town has taken the first steps toward control of its own future. But lacking any clear or urgent reasons, the second steps might be a long way off.

Slide 50
SEA
FOOD
RESTAURANT

The people of Phippsburg still depend on their nearness to the sea for life support. Lacking direct access to any major highway, the town is not apt to attract industry. Most of its residents earn their incomes through the fishing industry or the tourist trade, or both. Those who hold outside jobs usually travel no further than the Bath Iron Works.

Slide 51
PROMOTIONAL
SIGN

Land use and economics are largely influenced by the thousands of visitors who know only a summertime Phippsburg. They are attracted by Popham Beach State Park, Campgrounds, and the hundreds of summer cottages that spot the peninsula.

They create traffic problems and what some of the townspeople see as "assorted nuisances" (drugs, beach fires, litter). They also spend money, but just how much is not known.

Slide 52

SUMMER

COTTAGE

WITH

OUT-OF-STATE

CAR

In contrast to the "tourists", the summer people who own land have a stake in preserving Phippsburg's natural attractions. They have invested heavily in property taxes over the years and perhaps contributed to local fund-raising efforts. Some would be opposed to any more people crossing the Winnegance Bridge. If coastal property has to be taken over by any established authority, these people tend to prefer the interference of the federal government because it is not subject to "state lobbying pressures."

Slide 53

"FISHING"

WHARF

Among the fishermen there has been little open concern about tourists or how the land is used. One long-time lobsterman pointed out that when coastal property was cheap, the fisherman had to invest all of their money in boats and equipment. Hindsight tells some that it might have been more profitable and less difficult to have put their money in land instead. But once he casts his lot with fishing as a livelihood, the fisherman accepts the fact that his profits turn back into the business. Because of his independent nature, he often sees outside interference by those interested in marketing or aquaculture as endangering the living he makes from the sea.

Slide 54

POPHAM

BEACH

Phippsburg, like most communities in Maine, prefers to retain control over decisions that have local consequences. Both the Building Code and the Planning Board were, in the eyes of many,

preventive measures to avoid the possibility of having the state "tell us what to do."

Popham Beach State Park is widely resented because it caused the State Highway Department to broaden and straighten sections of Route 209 and to do this they had to take some people's land and houses by Eminent Domain. The Park has also deprived the town of a major taxable asset. Resentment against the state's enforcement of sanitation regulations is harbored by some local people who feel that the demands are unreasonable when applied to the realities of Phippsburg's soil.

Slide 55
STATE
PLUMBING
CODE

Within the town itself, the reluctance to sacrifice independence in favor of centralized control has also been evident. The people have been opposed to a School Administrative District. Most do not favor strict application of the Building Code or the Plumbing Code because the majority of residents might be affected by absolute enforcement.

Slide 56
ZONING
MAP

Zoning in 1972 held little appeal for the average Phippsburg citizen, who didn't want to lose control of his own land. And some who did support the idea of zoning did so because the people next door or the fisherman down the road need it.

Slide 57
COMMUNITY
GOVERNMENT
CHART

Low-income residents rarely attend Town Meetings when "hot issues" are not at stake; thus the meetings can be controlled by a dozen or so people who are well prepared in advance. The Planning Board and Conservation Commission, however, realize they must have the support of the people. They know how easy it would be for them to be voted out of existence.

Slide 58

BATH
IRON
WORKS

Today there is a general conviction that Phippsburg is changing. The first major alarm came when the Bath Iron Works was bidding on a large ship-building contract. It was clear to everyone that such a large-scale change in Bath would directly affect neighboring Phippsburg, and that period saw the first moves toward Planning. With their attention focused on their own community, people became aware that even without the Contract, Phippsburg was entering a period of growth and change.

Slide 59

CAMPGROUND

Housebuilding has picked up rapidly, and there is an increasing tendency to winterize summer homes. The opening of the State Park has brought more tourists during the summer months, and the campgrounds are filled during the peak season. Fishing patterns are changing and may be affected by new state and federal regulations. Also widely discussed in Phippsburg are the possible consequences of the constantly rumored large developments that might go up on privately owned large land tracts.

Slide 60

CAMPGROUND
SIGN

In any case, change is in the air, and Phippsburg residents worry about it, each in his own way.

Slide 61

SUBDIVISION
PLAN

One obvious path of development for the area is its emergence as a suburb for Bath and Brunswick. Many people think this is both inevitable and desirable. They point out that such a community would require its own services - stores, shopping centers, gas stations, recreation facilities - which would provide employment for Phippsburg's freelance carpenters, contractors, and house painters, as well as provide more tax money.

Slide 62
BUILDINGS
AND
LEDGE

Such a development would run into two major problems: the unsuitability of much of Phippsburg's soil for adequate sewage disposal; and the fact that the school is already operating perilously close to capacity.

Slide 63
SCHOOL
CHILDREN

Phippsburg is already concerned about the rising school budget, which has increased by a great deal since 1960 according to the town records, and would be hesitant about approving the new construction that would be needed by even a moderate increase in youngsters.

Slide 64
COASTAL
LAND

The largest land holder in Phippsburg, who owns over 2,000 acres in the Basin area may be contemplating developing his land. He has already built a year-round road through the property which he turned over to the town, and it seems likely that some development of an upper-income nature will take place there. At present, he is paying a low actual-use tax on a great deal of land, and many revenue conscious residents would like to see that tax rate change.

Slide 65
COASTAL
SCENE

The proposed development of Parker Head as a large scale summer resort alerted Phippsburg to the potentials and problems of this kind of development. "The summer people already pay for my kid's education," as one resident said, and many people feel that summer residency is the best and most natural type of development, given Phippsburg's scenic beauty and sandy beaches. However, most of the beachfront is already developed in one way or another and most of the remainder suffers from ledge and poor soil that characterizes Phippsburg.

Slide 66
SEBASCO
ESTATES
AREA

The possibility of industry coming to Phippsburg is also a matter of some controversy. Most people would welcome that seemingly mythical industry -- a small, non-polluting, scenic plant that would employ only local people and bring in more taxes. An industry connected with fishing seems most desirable to many people, despite the poor financial record of the only existing industry on the peninsula, a fish freezing operation.

Slide 67
DEP
BOOKLETS

Whatever form the future growth of Phippsburg takes, it is increasingly obvious - and resented - that the townspeople will not have complete control over it. The regulations of the Department of Environmental Protection and Health and Welfare have already had an impact in the area. The town's own building code has halted the plans of some developers. No one, of course, is in favor of pollution or poorly built houses, but rules and standards imposed by outside authority run head-first into the conviction of many Phippsburg people that they have a right to do as they please with their own land.

Slide 68
"FISHING"
WHARF

This feeling may have roots in the historic independence of Maine's coastal citizens. A fisherman - and they comprise a sizeable segment of Phippsburg's population - is obviously very much his own boss.

Slide 69
COASTAL SCENE
WITH WHARF

His success, or lack of it, depends largely on his own equipment, judgment, and industry. He is, more than most men, used to making his own decisions. However, he also depends heavily on the cooperation and goodwill of his neighbors.

Slide 70
COASTAL SCENE
WITH WHARF

"I have \$5,000 worth of gear out there," said one lobsterman, "and it is all at the mercy of a small boy with a jackknife." Problems concerning fishing grounds - the informal "zoning" of the waters - have for generations been solved by mutual and frequently unspoken agreement. When the inevitable differences do arise, they are solved without consulting any outside, or even local enforcement agencies. Given nearly 300 years of generally successful handling of such problems, it is only natural that Phippsburg fisherman resent "the eggheads, intellectuals, and lawyers at state hearings who tell us what's good and what isn't."

Slide 71
PHIPPSBURG
CENTER
STREET

There are those who feel that this independent attitude will work against the general welfare of Phippsburg. In any case, it seems likely that the state is going to have even more to say about the development of small towns than it does now. The Mandatory Shoreland Zoning Law, now in effect, states, for example, that special zoning laws must be made to protect all land within 250 feet of water -- fresh or salt. If the town does not pass such ordinances, the state will prohibit all development until they do.

Slide 72
WEST
BATH
SIGN

Whomever one talks to about the future of Phippsburg, the subject usually always circles back to zoning, in one form or another. And zoning, apparently, is what the other fellow needs. Some form of planning is increasingly and apparently desirable, but nobody wants it to apply to him or to his land. The adjacent community of West Bath had an experience that was undoubtedly of interest to Phippsburg.

Slide 73
BUILDINGS

A building permit was granted for the construction of two small apartment houses, the first in the town, and a meeting was held to determine how the town felt about it. The construction would bring in tax money, but would also overload the school system as well as change the character of the area. Some people were for the apartments; others were opposed, but it was soon made clear by the town lawyer that their feelings were irrelevant: the town had no way of preventing the construction even if they did not want it. The building code, which was the same as Phippsburg's, specified only the lot size, not the height of a building, and there were no regulations concerning which areas are desirable for large-scale housing and which are not. Just such a situation, obviously, could occur in Phippsburg, and it is almost inevitable that it will.

Slide 74
HOME

How Phippsburg prepares for it, and handles it when it does come, depends partly for the moment on the town.

A P P E N D I X C

"MAINELAND" FILM OUTLINE

"MAINELAND" FILM OUTLINE

At a public meeting to discuss the related land-use problems and issues of the town of Phippsburg, Maine, a variety of attitudes and beliefs became apparent. These were expressed by a number of individuals representing various levels of government and segments of society including the following in approximate order of appearance:

- selectmen
- Chairman of the Department of Environmental Protection
- campground operator
- Commissioner of the Park and Recreation Commission
- lawyer
- lumberer
- fisherman
- lawyer
- painter
- State oceanographer (scientist)

The film provides an insight to the kind of thinking concerning who should decide how the land is to be used and managed. Three levels of decision-making are evident . . .

the individual,
the community, and
the State.

A P P E N D I X D

COMMUNITY ATTITUDE SURVEY
Summary and Reporting Sheets

COMMUNITY ATTITUDE SURVEY

Summary and Reporting Sheet: 1

Category: KNOWLEDGE OF FACTS

Directions: Place a check in each box that there is a correct answer.

SURVEY CODE NO.	4	5	6	7	8	9
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
Grand Total Right						
Grand Total Possible						
% of Possible						

COMMUNITY ATTITUDE SURVEY

Summary and Reporting Sheet 2

Category: GENERAL INFORMATION

SURVEY CODE NO.	1	2a	3	
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
TOTALS	Average Number of Years	Community Names	No.	
			Total Score	
			Total Possible	
			Percent	
			107	

COMMUNITY ATTITUDE SURVEY

Summary and Reporting Sheet 3

Category: KNOWLEDGE OF CONCEPTS - General Understanding of the Problem

Directions: For those numbers in a circle record a 1 for a 5 answer, 2 for a 4, 3 for 3, 4 for 2 and 5 for 1.

SURVEY CODE NO.	10			(11)	(12)	13	14	(15)
	a	b	c					
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
SUMMARY	NO.	ORDER OF FREQUENCY	NO. TIMES	TOTAL SCORE	TOTAL SCORE	TOTAL SCORE	TOTAL SCORE	TOTAL SCORE
GRAND TOTAL POSSIBLE	1							
	2							
	3			TOTAL POSSIBLE	TOTAL POSSIBLE	TOTAL POSSIBLE	TOTAL POSSIBLE	TOTAL POSSIBLE
GRAND TOTAL SCORE	4							
	5			%	%	%	%	%
% of POSSIBLE	6							
	7							

COMMUNITY ATTITUDE SURVEY

Summary and Reporting Sheet 4

Category: KNOWLEDGE OF CONCEPTS - Causes of the Problem

Directions: For those numbers in a circle record a 1 for a 5
answer, 2 for 4, 3 for 3, 4 for 2 and 5 for 1.

SURVEY CODE NO.	16	17	18	19c
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
SUMMARY	TOTAL SCORE	TOTAL SCORE	TOTAL SCORE	TOTAL SCORE
GRAND TOTAL SCORE				
GRAND TOTAL POSSIBLE	TOTAL POSSIBLE	TOTAL POSSIBLE	TOTAL POSSIBLE	TOTAL POSSIBLE
% OF POSSIBLE	% OF POSSIBLE	% OF POSSIBLE	% OF POSSIBLE	% OF POSSIBLE
			109	

COMMUNITY ATTITUDE SURVEY

Summary and Reporting Sheet 5

Choosing

Category: KNOWLEDGE OF CONCEPTS - Evaluating Alternatives & Solutions

Directions: For those numbers in a circle record a 1 for a 5 answer, 2 for 4, 3 for 3, 4 for 2 and 5 for 1.

SURVEY CODE NO.	(20)	21	(22)	(23)	24	25	(26)	27	28
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
SUMMARY	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL
GRAND TOTAL SCORE	POSSIBLE	POSSIBLE	POSSIBLE	POSSIBLE	POSSIBLE	POSSIBLE	POSSIBLE	POSSIBLE	POSSIBLE
GRAND TOTAL POSSIBLE	%	%	%	%	%	%	%	%	%
% OF POSSIBLE				110					

COMMUNITY ATTITUDE SURVEY

Summary and Reporting Sheet 6

Category: KNOWLEDGE OF CONCEPTS - Implementing Solutions

Directions: For those numbers in a circle record a 1 for a 5 answer, 2 for 4, 3 for 3, 4 for 2 and 5 for 1.

SURVEY CODE NO.	(29)	(30)	(31)	(32)	(33)	34	(35)	36	(37)
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
SUMMARY	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL
GRAND TOTAL SCORE	POSSIBLE	POSSIBLE	POSSIBLE	POSSIBLE	POSSIBLE	POSSIBLE	POSSIBLE	POSSIBLE	POSSIBLE
GRAND TOTAL POSSIBLE	%	%	%	%	%	%	%	%	%
% OF POSSIBLE				111					

COMMUNITY ATTITUDE SURVEY

Summary and Reporting Sheet 7

Category: BASIC ATTITUDES AND VALUES

Directions: For those numbers in a circle record a 1 for a 5 answer, 2 for 4, 3 for 3, 4 for 2 and 5 for 1.

SURVEY CODE NO.	Land Ethic 38	Futurist (42)	Social Res. 39	GROWTH CAUTION 43	ACCEPT CHANGE (41)	SPRAWL TENDENCY (40)	
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
SUMMARY	TOTAL	TOTAL	TOTAL	ANSWER	%	TOTAL	TOTAL
GRAND TOTAL SCORE				NOT AT ALL			
	POSSIBLE	POSSIBLE	POSSIBLE	VERY SLOWLY		POSSIBLE	POSSIBLE
GRAND TOTAL POSSIBLE				UNDE- CIDED			
	%	%	%	MOD.		%	%
% OF POSSIBLE			112	RAP- IDLY			

COMMUNITY ATTITUDE SURVEY

Summary and Reporting Sheet 8

Category: LAND USE PRIORITIES AND COMMUNITY PREFERENCES

SURVEY CODE NO.	44		45		46						
					Res.	Com.	Ind.	Inst.	Rec.	Agri.	Open Space
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											

TOTALS	NO. ORDER OF FREQUENCY TIMES			NO. ORDER OF FREQUENCY TIMES			TOTAL SCORES						
	1	2	3	1	2	3	1st	2nd	3rd	4th	5th	6th	7th
							List Below in Order						
							1st						
							2nd						
							3rd						
							4th						
							5th						
							6th						
							7th						

113

COMMUNITY ATTITUDE SURVEY

Summary and Reporting Sheet 9

Category: BASIC DECISION-MAKING SKILLS

SURVEY CODE NO.	47	48	49
	Place a ✓ for right	Place a ✓ for right	WRITE IN NO. OF RIGHT ANS. (3 IS TOTAL POSSIBLE)
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
SUMMARY	TOTAL SCORE	TOTAL SCORE	TOTAL SCORE
GRAND TOTAL SCORE			
	TOTAL POSSIBLE	TOTAL POSSIBLE	TOTAL POSSIBLE
GRAND TOTAL POSSIBLE			
	% OF POSSIBLE	% OF POSSIBLE	% OF POSSIBLE
% OF POSSIBLE		114	

A P P E N D I X E

LAND USE PAIRED COMPARISONS
Chart

LAND USE PAIRED COMPARISONS

COMPARE THESE
USES AGAINST
THOSE ALONG THE
LOWER EDGE

LAND USES
LISTED IN
RANK ORDER

TOTALS

RESIDENTIAL	2	1							1
COMMERCIAL	3	2							2
INDUSTRIAL			2						3
INSTITUTIONAL				2					4
RECREATIONAL					2				5
AGRICULTURAL						2			6
OPEN SPACE							2		7
	RESIDENTIAL	COMMERCIAL	INDUSTRIAL	INSTITUTIONAL	RECREATIONAL	AGRICULTURAL	OPEN SPACE		

A P P E N D I X F

STUDENT MANUAL

The Maine Land Use Problem

A Secondary Education Unit

INTRODUCTION TO THE STUDENT

Land-Use refers to the way land is altered and managed to meet human needs. It includes such uses as agriculture, industry, residencies, recreation, highways, open space, etc., and deeply influences the social organism where the land is located.

Land-Use, and its related fields of planning, zoning and environmental protection is not a new concept. It has been in operation since the Indians hunted in the forests, cultivated corn in the clearings and grouped their lodges around a source of pure water.

During the years of European settlement and industrial expansion, however, land-use was interpreted mostly as: "The land is there - how can we use it for our own comfort and profit?"

Now discomfited by the increasing pressures from nearby cities, generally growing pollution and the possibility of stepped-up industrialism, the people of Maine have come once again to realize that land is an irreplaceable resource of the planet Earth and that only through wise and respectful use of this resource can Maine prosper economically without destroying the assets that make it desirable to live here.

In 1971 the Allagash Institute (then the Allagash Group) sponsored a day-long land-use conference in the coastal town of Phippsburg. State officials, representatives of private organizations and land-use experts came together with the people of Phippsburg in an often heated debate concerning the town's greatest asset: its land.

Issues raised included such fundamental considerations as who should decide what happens to the land; whether or not government (state, federal or local) regulations meet the needs of the people and the land in a realistic way, and, underneath, a strong current of concern from people who did not want their individual liberties infringed upon, but were confused and worried about the changes coming to their community. The conference was filmed and edited, against the scenic background of the Phippsburg peninsula, into a 30-minute sound and color film at a cost of \$3,700, which has been shown over ETV as well as in many local communities.

It is the film, Maineland, which the Allagash Institute is using as a basis for this unit of study and activity. The major goal of this mini-course is to help students acquire an understanding of the need for land-use planning and to help them acquire the motivation and ability to participate in sound land-use decision-making. These three outcomes - understanding, motivation or feeling and ability or skill - are more specifically defined on the following pages. It is their attainment in each student that prompted this unit to be developed and taught and, as such, they form the basis for all teaching and student activities.

Suggestions on the Use of the Unit

The unit activities are designed to be of two kinds - basic core activities and optional activities. The two suggested core activities are in Part III - The Phippsburg Case Study slide presentation followed by the film Maineland. One period is suggested for each. The other activities have been developed to both precede and follow-up these two and you are encouraged to utilize as many of them as time allows.

Part I provides an opportunity to introduce the land-use issue and is particularly oriented to clarifying land-use

values and goal setting. Each activity is designed to be carried out in approximately one period.

Activity One provides a pretest as well as an introduction.

Activity Two may involve the students in summarizing and analyzing the test results as an educational experience. If the teacher wishes to simply give the survey as a pretest, he or she can summarize it without student involvement.

Activity Three, although based on a question in the survey, can be carried out independently as a land-use values clarification activity.

Activity Four involves students in goal setting and can also be carried out independently of the others if the teacher wishes.

Part II provides an opportunity for students to gain an understanding of land-use history through reading and discussion.

Part IV is designed to follow-up the film Maineland. Through a simulation, students can become personally involved in the process of land-use planning and problem-solving. One period is suggested to introduce the problem and provide time for research and one period will be needed to actually carry out the simulation. If the teacher wishes to use the post-test, another period will be required. This is designed to serve as a secret ballot for the simulation and includes the same questions as the present so that scores may be compared and unit outcomes measured.

Part V offers follow-up consideration which you might be interested in exploring upon completion of parts or all of the unit.

Finally, it is hoped that the flexibility built into this unit will meet the needs of most secondary teachers and will encourage you to involve your students in the further study of the Maine land-use problem.

PART I

Land-Use Values Clarification

State law now requires that each town have a "statement of community goals which helps in making official community decisions on growth and development: This must be done before developing or updating a plan to guide a community's future. Such a statement of goals should reflect the feelings of the town's citizens. Accordingly, communities are now and have been conducting attitude surveys upon which to develop community goals. Generally, town planning boards have initiated the community surveys, often receiving assistance in their preparation from professional planners. After the survey questionnaire has been drafted, tested, and written in its final form, it is then distributed to the citizens. After being filled out and collected, the answers are listed in categories. Finally, the answers are analyzed and used to help in the writing of goal statements for the community, that is, what the citizens would like the community to ideally be in the future. Frequently, public meetings or hearings follow the survey to discuss the results and goal statements.

The survey results and the goals can then be used to develop a comprehensive land-use plan on how the community should develop so that it might achieve its goals. Such a plan is a collection of ideas and information on the community's natural resources, population, businesses, etc., including recommendations on its future. In addition, the survey can help community officials to know better where the town now is in its process of development and what problems now exist. The survey also helps to identify people in the community who can participate and give leadership in the development of a comprehensive plan.

PART II

A History of Land Use

The Earliest Times

It was after the Ice Age and the beginning of the Mesolithic Age (Middle Stone Age-8,000 to 10,000 years ago) that man began to exert a noticeable impact on the physical environment. Prior to that he had been a nomadic hunter, moving frequently, and if he did construct shelters they were of a temporary nature. His wandering life-style and his inefficiency in exploiting his surroundings caused little disturbance to the natural scheme and his limited numbers allowed the environment to rebound from any abuses that he might have dealt it. Through the ensuing years he became more adept at tool-making and tool-using. He began to domesticate animals, he tilled the soil, and developed villages. By the Neolithic Age (New Stone Age-5,000 to 8,000 year ago) he was irrigating his crops. The Bronze Age (1,000 to 5,000 years ago) brought new implements more efficient in agriculture, better able to aid in the construction of permanent shelters and communities and also more deadly in war. Surpluses in food allowed people to become merchants and craftsmen. He saw the need for more formal governmental systems and established rules and regulations to govern behavior toward others and his surroundings.

But, even early civilizations eventually realized that they could not place themselves above nature. Their new-found tools and skills had boundaries. It has been shown that the ways that they used their land have been to some degree responsible for their decline. According to Raymond Desmann:

"When environments were first shaped with agricultural tools and man could depend for subsistence upon his farming skills, he obtained a high degree of control over nature and could harness cycles of energy and nutrient flow and put them to work producing the materials he required. If, however, through a failure to adapt his techniques to the necessities of the environment he damaged or destroyed his land, he perished. Fortunately, he was most often preserved by his own ineffectiveness in bringing great changes. An early tropical farmer, clearing forest with fire and stone axes, could not create the bare exposed soil that would have invited disaster. By the time more efficient tools made this possible, he had learned certain lessons of living with tropical soils and had adapted his farming methods to them. At the worst, where he was too efficient for his own good and lands were damaged, the failure was local; adjoining people could learn by the mistake."¹

And so, the human race continued, but early civilizations such as Egypt, Mesopotamia, and Babylon rose to power and then fell into decline leaving behind eroded hills, silted rivers and overgrazed sterile land.

An Era of Gradual Changes

Man continued in the earlier time of recorded history to struggle with the land and prime settling areas were those with abundant natural resources which allowed the people to pursue activities other than those directly associated with eking out a daily living. Such prized areas were said to be flowing with milk and honey."

As for new techniques in using the land, the Romans developed an Empire which was based on the agricultural production resulting from breakthroughs in conserving soil and water. Mago, a Carthaginian, was a recognized authority on the use of the land around 140 B.C. and saved from the destruction of Carthage in the Third Punic War were 28 volumes of work on agriculture which he authored. But, even though man became more released from direct dependence on the land and had time to explore trade and develop larger cities with more comforts, he still did not have the knowledge and technology to develop a culture in which specialization would leave to different segments of society the responsibility of feeding the masses, or clothing them or acquiring building materials. He remained very much aware of his direct link to the natural resources around him and how they affected his daily living.

The Middle Ages of Europe was a time of kings, lords, serfs and slaves. An elaborate system was started between the rivers Loire and Rhine (now France) called feudalism. This was a time of settling on the land after the wars with Rome and the ravages of the barbarians. Land ownership became central; the only true landowner was the king. Those with wealth offered protection and other services to those under them. In return, the serfs and slaves farmed and cleared the land. Villages in the center of farms were scattered through Europe. And, although man's techniques in dealing with his surroundings were less than sophisticated he had succeeded by the 1700's in settling Europe and reports of waste water and garbage pollution in the streets of London and Paris are recorded. (Earlier, Rome had experienced a similar problem and built sewers to take the waste materials away from the town).

In the following years, growth continued and the subsequent increasing demand for food resulted in the governments encouraging the consolidation of the scattered small holdings of the feudal system. This led to larger

more efficient farms. By the latter 1700's man was succeeding on a wide scale in changing his surroundings. Where earlier civilizations moved or perished when the environmental became inhospitable, society was now much more stable. The time was ripe for new breakthroughs in the utilization of present resources and the exploration for new resources.

A Moment in Time for Western Culture

It was in but a moment of time (approximately 1750-present) that the greatest changes have occurred in the land and man's attitudes toward the basic natural resources. It very likely started in Great Britain. Up to circa 1750 Great Britain, in common with all Europe, was primarily agricultural. Although British commerce was now worldwide, most tools and machines had changed little over the centuries and were usually powered by animals or man. Industry was predominantly local and small scale. Suddenly a whole host of mechanical devices were invented and the more efficient farming techniques left many laborers in the growing population unemployed. Factories sprang up and the balance of population shifted from the country to hurriedly constructed dwellings around the industrial sites. A movement had begun which required that the land and its resources feed the machines in return for finished products. Expectations on the part of the people rose and so did the demand. New harvesting and mining techniques complied with the wishes of the people and for the first time in history, wide-scale exploitation was occurring. Society moved even more quickly from a direct link with the basic natural resources. The colonization efforts of France, England, Spain, and the other countries were paying off in imported raw materials from the New World. By the early 1800's, the Industrial Revolution had spread to North America. The question now was not whether man was changing his surroundings

but to what extent was he exploiting his environment. He had more goods and services than ever before and life was easier. Who could anticipate today's discussions and actions to soften the environmental cost? This should be no surprise since the scientific revolution had given man the idea that nature could be controlled and managed to his benefit. He now had the wherewithal and the attitudes to lead to even more alienation from the land. Destruction of large areas due to a lack of awareness was not uncommon.

Land Use in the United States

France, England, and Spain had different reasons for their exploration of America. France did little colonizing but was interested in trading and military centers along with exploiting the human and natural resources of a given area. Spain also colonized for military purposes and exploited the natural-human resources. England was more interested in developing settlement centers by private investment groups. The English exploited the natural resources, but also cultivated the land.

The earlier settlers arrived for various reasons to begin a new life in America. Some wanted to escape religious or political persecution, others wanted to start a new life of adventure, but many were escaping from the feudal type of land ownership and use in Europe where one person of nobility controlled the land and the common people worked on it. It was a dream to own their own land and America was the place to fulfill this dream. Patterns of land ownership soon developed. New Englanders divided the land fairly evenly into small, individually worked farms. The South, because of large royal grants of land from the mother countries, concentrated the land in the hands of the few. Thereby, the European concept of land ownership was, in a sense, perpetrated in the South.

The United States, upon winning its independence, had a chance to develop as a nation different from the European countries' tendencies toward the establishment of nobility and large wealthy landowners. According to Peter Barnes the following occurred:

"Men like Jefferson looked forward to a vigorous agrarian democracy, fostered by public education and a judicious distribution of the government's western domains. However, politicians were less interested in promoting agrarian democracy than in making a quick buck. The history of the giveaway of America's public lands - hundreds of millions of acres over a century and a half - constitutes one of the longest ongoing scandals in the annals of modern man. Fraud, chicanery, corruption and theft there were aplenty, but more scandalous was the lack of concern for the social consequences of uneven land distribution. Congress at times did enact such farsighted measures as the Homestead Act of 1862, but far more often it authorized the wholesale disposal of public lands to speculators rather than to settlers. And what Congress didn't surrender to the land hoarders, the state legislatures, the Land Office and the Interior Department usually did."²

Through the Homestead Act of 1862 those without "get-rich-quick" ideas had a good opportunity to acquire land for their own settlement. This Act, by giving 160 acres to anyone who would live on it for five (5) years opened the West for settlement. More than 200 million acres were settled because of this legislation.

These early years were a time when the commonly held philosophy was one of unlimited growth with unlimited resources. If the land was ruined through bad farming practices or the removal of valuable resources, settlers could always move West and start over again. Although the concept of unlimited land and new frontiers

ended about 100 years ago, the ideas of unlimited growth and unlimited resources are still in evidence.

It cannot be said that no one warned the early Americans about unwise land use and excessive waste. Colonial leaders such as Washington, Jefferson, Patrick Henry, and William Penn warned against wasteful practices, but, as in so many other cases, until the warned-about problem actually becomes reality, large-scale action is not taken. As recently as 1900 when the U. S. had a population of 76,000,000 people, few realized the need for a policy aimed at wise development and intelligent use of the land. But problems began to appear in the denuded hills and overgrazed lands. Reduced reserves of minerals further accentuated the need. It was President Theodore Roosevelt who started a coordinated attack to head off large scale destruction and exploitation of the basic natural resources. In 1908, a conference was held to bring into being a national and statewide action in this area. Forty-nine well-known scientists, industrialists, and publicists were appointed to a National Conservation Commission. They made a quick inventory of the nation's resources. In the wake of this study, a series of treaties, laws, and educational movements were initiated resulting in Federal and State services and organizations existing solely for the purpose of guiding and recommending the best uses of the land.

The country, however, continued to be concerned with development and becoming self-sufficient because a conservation policy was directed toward wise-use, not the hoarding of resources. Two World Wars and an ever increasing population accelerated intensive land use from agriculture to the stringing of electrical lines. The most dramatic shift of land use occurred in the urbanizing of America - the movement from the country to the cities and suburbia. In 1920 there were 10 major urban areas occupying 2.1% of the total U. S. land area.

By 1980 there will be 24 occupying 13.3% of the land. Intensive settling was now adding a new dimension - the land was being taken out of circulation by the growing population's needs for living space and services. Today, with a population of over 200,000,000 people we see new land-use issues arising that are removed from how best to grow crops, prevent erosion, or manage a forest. We are faced with such concerns as providing open spaces, recycling resources, and zoning ordinances. Where is U. S. land-use heading? The U. S. Environmental Protection Agency in July, 1973 offered some projections. They estimate that:

- 19.7 million acres may be consumed by urban sprawl by 2000 - an area equivalent to the states of New Hampshire, Vermont, Massachusetts, and Rhode Island
- 3.5 million acres may be paved over for highways and airports by 2000
- 7 million acres may be taken from agricultural use for recreation and wildlife areas by 2000
- 5 million acres may be lost to agriculture for public facilities, second home development, and waste control projects by 2000
- 492 power stations may be built by 1990 for 200,000 additional miles of power lines.³

Maine

As far as anyone can tell, the first human inhabitants of the land area which is now the State of Maine were the Red Paint People. There is evidence that they were here as early as 1000 A.D. Remains of this group of early Indians show a liberal use of red ochre, a color pigment, which gives them their name, but little else is known. How and when they disappeared remains a mystery.

It is believed that certain groups from the Algonquin Indians of the Ohio area migrated into Maine after the Red Paint People and these are the ancestors of the more well-known tribes such as the Penobscots, Kennebecs, Passamaquoddis, Abnekis, etc. Captain John Smith, who sailed the Maine coast in 1614, made as thorough a study as was possible of the Indian population in what is now Maine. The figure he arrived at was 35,000 to 40,000 people in the entire area. How did they live and what was their attitude toward the land? The following excerpt shows how closely the Indians were to their surroundings and how adept they were in using the resource at their disposal.

"The daily life of the Maine Indian can be appreciated by all who have followed the water-ways of the Maine woods hunting and fishing. The quest for the day's food, the sport of running rapids, the toil of poling up against the current, the fatigue of the carries, the campfire at night, the hearty evening meal and sleep upon beds of fir boughs savage and tourist share in common in the timeless region of the woods. But the Indian was always the busier man. The "lazy Indian" is a figment of the white man's prejudice. Merely to exist, finding himself in food, clothing, shelter, weapons and fire, in a climate as stern as this required constant application. What a labor it must have been to construct a good birch canoe with nothing but stone tools! What a task, among the great trees of the forest, when a stone axe was the only implement, to supply the firewood for even the little Indian fire, to get ash for basket-stuff, to rift maple for paddles, to replace the breakage of spears and lances, bows and arrows, with heads of stone or bone and shafts that had to be true and shapely! Yet the work was done in a way to excite admiration. No doubt after the time when a few

skins would buy the implements he needed, the work of the Indian man fell away, while that of his wife did not; but in the beginning the division of labor was a fair one. Those who did not work in summer could not eat in winter. When the ice broke up there was the spring hunt of beaver and muskrat. Then the fish came up the rivers in millions, and at the foot of every fall men, women, and children scooped alewives and shad; or they caught them in rude weirs. Salmon must be speared when they began to run upstream, and sturgeon must be taken and all these fish must be smoked and dried for winter use. Then they must plant their fields of corn, beans and pumpkins, together in little hills, with an alewife for fertilizer, as they taught the English colonists. When midsummer flies and mosquitoes made the woods unendurable, they all went to the seashore. There in great clambakes they steamed clams, oysters and lobsters and dried them for winter use, packing them away in birch-bark boxes. There they gathered acorns and ground them into meal, or, as Josselyn tells us, extracted oil from them. They got feathers from the sea-birds nesting on the islets. They hunted seal and porpoises and tried out the oil, storing it in seals' "pokes," for lack of jars. They even hunted whales. Both Josselyn and Rosier tell of the boldness with which they pursued and captured whales, fastening to them in their frail canoes, with harpoons made of bone and lines made of bark. Berries they picked and dried for winter use. They dug roots of the ground nut and of the yellow meadow lily. When the eels came down stream in the fall they caught them in weirs and dried them in great quantities. Then came the harvest and the fall fur-hunt and all through the winter they worked upon garments, weapons and ornaments, the

making of wampum and baskets, the getting out of basket-stuff and birch-bark, the hunting of large game for fresh meat. By night the wolves howled round their wigwams and on stormy days of winter in their communal long houses, such as Williamson describes, or in their small conical camps of spruce bark, they watched the kettle. The feast preparing might be dried clams or oysters, boiled in water, well seasoned with bear or seal oil, with pounded acorns added to give it a good flavor. The kettle itself would be of birch-bark. Joseph Necolar says so their pottery being too frail and porous for cookery. A great turtle shell or a wooden bowl would be the serving dish. Thus they feasted."⁴

An interesting description of the Maine Indian's environment is recorded by the same Captain Smith on the same cruise mentioned above. He says of Maine:

". . .The waters are most pure, proceeding from the intrals of rockie mountaines; the hearbes and fruits are of many sorts and kindes: as alkermes, currans, or a fruit like currans, mulberries, vines, respices, goosberries, plummes, walnuts, chesnuts, small nuts, &c. pumpions, grouds, strawberries, beans, pease, and mayze: a kinde or two of flax, wherewith they make nets, lines and ropes both small and great, verie strong for their quantities.

Oke, is the chiefe wood; of which there is great difference in regard of the soyle where it groweth, firre, pyne, walnut, chestnut, birch, ash, elme, cypresse, ceder, mulberrie, plum-tree, hazell, saxefrage, and many other sorts.

Eagles, Gripes, diverse sorts of Haukes, Cranes, Gees, Bratts, Cormorants, Ducks, Sheldrakes, Teale, Meawes, Guls, Turkies, Dive-droppers, and many other sorts, whose names I knowe not.

Whales, Grampus, Porkpiscies, Turbot, Sturgion, Cod, Hake, Haddock, Cole, Cusk, or small Ling, Shark, Mackerrell, Herring, Mullet, Base, Pinacks, Cunners, Pearch, Eels, Crabs, Lobsters, Muskles, Wilkes, Oysters, and diverse others &c.

Moos, a beast bigger than a Stagge; Deere, red and Fallow, Bevers, Wolves, Foxes, both blacke and other; Aroughconds, Wild-cats, Beares, Otters, Martins, Fitches, Musquassus, and diverse sorts of sermine, whose names I know not. All these and diverse other good things do heere, for want of use, still increase, and decrease with little diminuation, whereby they growe to that abundance. You shall scarce finde any Baye, shallow shore or Cover of sand, where you may not take many Clampes, or Lobsters, or both at your pleasure, and in many places lode your boat if you please; Nor Iles where you finde not fruits, birds, crabs, and muskes, or all of them for taking, at a lowe water. And in the harbors we frequented, a little boye might take of Cunners, and Pinacks, and such delicate fish, at the ship's sterne, more than sixe or tenne can eate in a daie; but with a casting net, thousands when wee pleased: and scarce any place, but Cod, Cuske, Holybut, Mackerell, Scate, or such like, a man may take with a hooke and line what he will. And, in diverse sandy Baies, a man may draw with a net great store of Mulletts, Bases, and diverse other sorts of such excellent fish, as many as his Net can drawe on shore: no River where there is not plentie of Sturgion, or Salmon, or both; all which are to be had in abundance observing but their seasons."⁵

By 1623, the first permanent settlement of men, women and children was established in Saco. Earlier attempts at Popham Beach had been unsuccessful. Following was a period of gradual growth and then after 1763 came more rapid influx of settlers. Much of the early Maine land was in dispute because of multiple claims of ownership going back to mother countries. Some residents during this time decided to avoid the hassle and moved West.

The final result of all these disputes including a boundary war was a state with 33,215 square miles (approximately 20 million acres) of land area, the largest in New England. Today, about 42% of this area is unorganized territory or wildlands, Ninety percent of the state is privately owned. Of the 2% in public ownership, the State owns about two-thirds.

About 88% of the state is forested and approximately 8% is water surface. Roughly one-third of the State is mountainous. Part of the Appalachian Range extends in a swath 50 miles from the southwest corner of the state through Baxter State Park. Most of the state has infertile soils as the result of glaciers and erosion. The notable exception, of course, is Aroostook County. Only 14% of the State is classified as good or fair for cultivated crops. The number of farms has decreased while the average size increased. Following the national urbanization trend, the amount of Maine land being used for urban and built up purposes went from 371,389 acres in 1958 to 628,697 acres in 1967.

A quick overview of population numbers, settlement locations, and trends is as follows:

"Maine's 1970 population was 993,663, a gain of 2.5% from 1960. Most of the people are concentrated in the southwestern third of the state, along the coast, and the upper reaches of the border with New Brunswick. Except for the N.B. border, the northern part of the state and a large part of Washington County have

less than ten persons per square mile. Highest density of population is in Cumberland County with 217 persons per square mile. Androscoggin, York and Kennebec are close runners-up. About half of the population lives on the coast (11% of the land mass), but density is relatively light in the mid and eastern sections of the coast. If the trend toward out-migration is slowed, Maine can anticipate a larger number of persons in the younger work force in the decade ahead.

Population figures are incomplete without including the sharp increase during the tourist season. The volume of tourists increased over 125% from 1960 to 1970. The public visitor-reporting areas logged over five million visitor days in 1970, a 64.5% increase in five years. Heaviest concentration of tourists is in the southwestern region, primarily along the coast. Other concentrations are the mid-coast, the western lakes region, and Baxter State Park.

Because of Maine's proximity to the BosWash megalopolis this increase in tourism is expected to continue. Estimates place the number of visitors per year at 20 million by 1980 and over 30 million by 1992."⁶

In Maine, the manufacturing industry is led, as computed by value of product, by paper and allied products followed by foods, leather, lumber and wood, and textiles. When considering the number of workers employed, leather related industries lead followed by paper and allied products, lumber and wood, food, transportation equipment and textiles.

In 1970, 382,000 persons were employed in the State of Maine with an average annual income of \$6,000 after taxes. Further investigations reveal the following:

"Maine has had a relatively stable population since 1960. In that time the production of goods and

services has increased; so have the number of jobs; so has the per capita personal income; so has the cost of living. The rate of unemployment was the same in 1970 as in 1960; and the number of unemployed was greater (27,500 in 1960; 31,800 in 1971). The percent of families with incomes below \$3000 dropped from 22.8 to 15.1 but is still one of the highest in New England. If \$5000 is used as the cut-off level for poverty because of price increases, 32% of Maine families are below this level. During the period the percent of families with incomes of \$10,000 or more increased four times faster than those under \$3000 declined.

Statistics showing an increasing per capita income and growth in production mask the misery of the poor. Maine's economic growth, costing an unestimated amount in ecological values, is widening the gap between the comfortable and the miserable. The trickledown theory of economic growth has a bitter and uncertain flow for the un- and underemployed."⁷

Responding to Increasing Pressures on the Maine Land

An explanation of how Maine responded to the increasing pressures on the land felt over the U. S. is offered by Elizabeth Haskell and Victoria Price.

"At first, it may seem odd that this New England state, known for its reverence of unfettered property rights, is now one of the most advanced states in land regulation. But Maine also has a sense of place - a timelessness and loveliness unchanged in a changing world, and a most precious commodity on the American scene: undeveloped scenic land.

A recent economic analysis of Maine concludes that the demand for land, for recreational and industrial use, is the "most significant economic

development in Maine in over one hundred years, since the development in the 1860's of mechanical processes for converting low grade wood pulp to paper."⁵ Since the great era of textile and paper-making factories, Maine, even more than the rest of Northern New England, has gradually fallen behind in development, and has remained a place where a sense of privacy and reserve grew, and where a love of open country and a hard life were the lot of most residents. The best-educated young people had to travel south to earn a good living. Because of this economic situation, Maine has an abundance of land that, by American standards, is pure and unspoiled and very much in demand.

Seventy million Americans now live within a 24-hour drive of Maine, and many of those 70 million wish to flee the urban scene and can afford to do so. Maine has the combination of water and predictable snow that guarantees success in the second-home market. The advance guard of the second-home owners, the summer tourist, pours up into Maine regularly and brings home to Mainers the interest of outsiders in their state. These annual migrations, still uncharted or uncounted but clearly enormous, make the year-round residents very much aware of the affluence of the visitors and the mounting costs of land.

A second and most intense pressure upon the land is currently generated by oil companies seeking terminal and refinery facilities to accommodate the deep-draft supercargo tankers now being built. The only natural harbors on the East Coast deep enough to receive these ships are in Maine. Thus, the exquisite Maine coast, long the symbol of the state and its principal lure to visitors, is doubly threatened by uncontrolled land use.

⁵ Maine Manifest, The Allagash Group, Bath, Maine, 1972, page 8.

By 1969 these factors, plus the national ecology boom, combined in Maine to create a strong awareness of the vulnerability of the state. There is almost no zoning in Maine; few of the tranquil coastal towns are willing even to face the necessity for establishing land use guidelines. (In mid-1972 less than 15 percent of the coastal communities had any zoning or land use laws; over 400 of 497 organized towns had no planning organizations.⁶) Unwilling to act locally but fearing exploitation, citizens turned to the state for help.⁸

One source of help came in the form of the Site Selection Act of 1970 which:

"regulates major industrial and commercial developments through permits issued by a Board of Environmental Protection, which also administers the state's other environmental controls. Development conditions can be attached to the permit or the site denied altogether. The Site Location Law is the main part of a package of laws that give Maine one of the most comprehensive state land use management systems in the country. Other parts include three other land use laws - controlling shorelands,² wetlands,³ and undeveloped or "unorganized" regions⁴ - and antipollution laws relating to air, water, solid waste, and mining.⁹

Other attempts to plan and regulate land use in Maine include the Land Use Regulation Commission (LURC) responsible for zoning all unorganized and de-organized areas; the Governor's Task Force on Energy, Heavy

²12 Me. Rev. Stat. Ann. SS4811-4814

³12 Me. Rev. Stat. Ann. SS4701 et.seq.

⁴12 Me. Rev. Stat. Ann. SS681-689

⁶John N. Coles, "Recognizing Maine's Value," Maine Times, May 7, 1971, p. 4

Industry, and the Maine Coast, an ad hoc group which recommended suitable sites for industry; as well as various State Departments and private organizations. Throughout all the deliberations, recommendations, and board actions the larger question continually reappears - to what environmental expense is Maine willing to go to stimulate its' sagging economy? The answer is not clear but the following continues to hold true:

"A great many people are now moving to Maine to escape urban life and the problems of industrial development. Native Mainers are caught between rising pressure on land and rapidly inflating land value, rising property taxes, and no increase in available income. While the Mainer has a strong attachment to the land, he does not wish to be impoverished so that refugees from the Northeast corridor can live a life of rural purity. These potential conflicts are beginning to be more apparent as the newcomers increase in number. In many areas, the immigrant's idea of appropriate zoning and control represents an elitist taste that those living in the depressed economy can ill afford and do not desire. Mobile homes and housing developments represent something far different to those who can no longer afford to build on their own land than to one newly arrived from New Jersey. Many of the new arrivals have a strong need to protect their rights of private ownership and "No Trespassing" signs are appearing in areas that have traditionally provided public open space in an area where there is in fact almost no publicly owned open space."¹⁰

Maine will continue to grow. More people will move into the State. More services and products will be needed to support them. It is time to take a hard look at what we are doing to our land and the environmental cost involved in future plans for development and use.

We cannot isolate ourselves and we cannot preserve everything around us but we can interact with the land in a way that shows a balanced approach to meeting both human and environmental needs.

PART III

A Community Land-Use Case Study

1. Slide Presentation

This slide presentation prepares you for viewing and discussing meaningfully the film "Maine-land" by setting the natural, social, political and economic scene of Phippsburg. It is factual in approach and will provide a basis for the development of conceptual and values-laden discussions to follow.

Class Discussion

Questions:

- 1) What are Phippsburg land-use problems?
- 2) What physical aspects of the land are involved in Phippsburg's growth decisions?

- 3) What historical events have played a major role in Phippsburg's development and influenced the kinds of problems the community faces today?
- 4) How does the make-up of the population (full-time residents, seasonal residents and visitors) influence the kinds of problems and decisions in Phippsburg today?
- 5) Who do you think will be making Phippsburg's decisions in the future?

2. Film "Maineland"

At a public meeting to discuss the related land-use problems and issues of the town of Phippsburg, Maine, a variety of attitudes and beliefs became apparent. These were expressed by a number of individuals representing various levels of government and segments of society including the following in approximate order of appearance:

- selectmen
- Chairman of the Department of Environmental Protection
- campground operator
- Commissioner of the Park and Recreation Commission
- lawyer
- lumberer
- fisherman
- lawyer
- painter
- State oceanographer (scientist)

The film provides an insight to the kind of thinking concerning who should decide how the land is to be used and managed. Three levels of decision-making are evident . . .

the individual,
the community, and
the State.

Factual and Conceptual Questions

- 1) How many levels of decision making were represented in the film?
- 2) What land-use values were primarily the concern of each level?
- 3) What effect would the proposed solutions have on the town?

Personal Values Questions

- 1) How important do you feel the quality of the natural environment is to a community?
- 2) How much would you be willing to spend to buy an acre of land for a park to be developed in the year 2020?
- 3) If a zoning ordinance were drawn up to protect the total community's welfare but it limited what you could do on your own land, would you support it?

- 4) ~ Would you support a law requiring larger lot sizes for buildings, thus limiting the number of people in your community or allowing smaller lots which would increase the population and create more opportunities for places for entertainment, eating, etc.
- 5) If changes are inevitable in a community, what is your responsibility?
- 6) Would you prefer to live in a rural setting close to nature with "room to roam?" What do you think are the long-range consequences if everyone felt as you do?

PART IV

Simulation of a Community Land Use Issue

Prior to June 30, 1974 all municipalities in Maine must prepare and adopt a zoning and subdivision ordinance controlling land uses in an area 250 feet from the normal high water mark of any pond, river and salt water body. Refer to Shoreland Planning - Four Typical Maine Communities for the "Text of the Shoreland Zoning Law Amended" pp. 6-7. For an example of a model ordinance refer to State of Maine Guidelines for Municipal Shoreland Zoning Ordinances. Both are included in the kit of instructional materials.

A zoning ordinance is defined as a legal document dividing the community into districts and limiting the kind of use or activity that may take place on all land and within a given area.

A subdivision on the other hand involves controls which guide the alteration of raw land within the land-use districts established by the zoning ordinance. It is defined as a legal device that regulates the process of dividing up and developing raw land concerned for setting standards for streets, sewers, water supply, design, open space, etc. Zoning ordinances, by State statute, must be consistent with the comprehensive plan.

A comprehensive plan is defined as a compilation of goals, standards, maps and information on the community's natural and human resources with recommendations on ordinances, housing, safety, etc.

The two sections of a shoreland zoning ordinance which deal with the location, construction and operation of a particular land use activity on a particular piece of property are:

1. That which identifies land use districts and district requirements; and
2. That which sets forth the standards of performance for all land use activities.

Land use districts may be used to accomplish a desirable pattern of land use by regulating the type, density and distribution of activities which may occur in a given area. The delineation of these districts on a map and the assignment of a range of appropriate land uses is not alone sufficient to assure environmental protection and quality development.

Almost any use of land, if conducted carelessly, will be detrimental to either the environment or to existing development. Performance standards are, therefore, included in a zoning ordinance as a set of "quality controls." Thus, for example, all residential development, regardless of what district it is in, must meet minimum standards for sanitary waste disposal. All development requiring parking facilities must meet minimum space and access requirements according to the amount and frequency of automobile use anticipated.

All timber harvesting within 250 feet of the shoreline must be conducted so that a well distributed stand of trees is retained. Land use district requirements may expressly permit or prohibit a particular type of activity in a given area. Performance standards do not specifically prohibit any type of activity if that activity cannot be economically constructed or operated while at the same time meeting the performance standards.

Performance standards should be written in very specific terms so that a technical review can determine whether a land use proposal meets the standards or not but sometimes this is impossible to do. Sometimes, it is necessary that judgment decisions be made by the zoning board of appeals as to whether the proposal meets performance standards or not. Then it is important that the zoning ordinance include a statement of the kinds of values to be considered in their determination.

Both land use districts and performance standards are developed with the aim of assuring that future development is compatible with the natural environment and with the ability of the existing pattern of man's activities within the community to sustain such use without degrading the quality of either. The state has determined that certain areas (lands within 250 feet of the shorelines of ponds, rivers and salt water bodies)

are being overtaxed in terms of their natural abilities to support man's activities and that it is in the public interest to control the use of these areas in order to prevent the deterioration of those qualities which provide for their enjoyment and use.

Certain types, densities and distributions of activities in these shore areas and certain aspects of their construction and operation have been indicated in the "Interim Guidelines" as those types of issues which must be effective. The standards set forth in these guidelines may be regarded as minimum regulations which serve an overriding (statewide) public interest.

Within any particular community the local public interest may be better served by regulations which exceed or are more specific than these. It is in deciding what range, density and distribution of land uses will be permitted within the shorelands and within the community as a whole that local concerns are particularly expressed.

Land use districts are created for a reason: to accomplish a desirable pattern of land use. The desirable pattern is that which is in the best interest of the community. This interest must be identified by any municipal group which takes on the responsibility of preparing land use ordinances and presenting them to the voters.

Always there will be questions as to why some activity is expressly permitted, prohibited or subjected to review answered in terms of the community interest to be served where another activity is not. The questions must be by such regulation. Perhaps the interest has been inaccurately identified and a broader range of permitted land uses will be found more acceptable for a particular district. This identification and affirmation of public purpose through public information meetings, discussion groups with landowners and other special interest groups, etc., is necessary for successful local ordinances.

Background Information

1. Community Overview - GRANDVILLE

Physical Grandville on the Grand River
Newago Lake
Somewhere in Maine
Hilly
80% Forested

Social 5600 people
80% live in urban center by outlet

Economic 2 large industries
furniture factory (600)
heavy construction (20)
sheet metal (6)
pre-fab cabin plant (25)
middle class/cross section
tourism related

Political 3 selectmen with town manager
planning board
conservation commission
Parks & Recreation Department
Water District

2. Land-Use Issue

The State has required all communities to zone all the land within 250 feet of the high water mark of all rivers, ponds, lakes, and coastal areas. A public information meeting has been called by the planning board to seek community ideas on how to zone the area shown by the maps.

The issue: how should the town zone the Grand River Corridor from where it enters the town to where it enters the lake.

The town owned land (see map) is presently undeveloped, serves as a picnic area, and long-range plans call for it to become a town park.

The opposite shore is owned by a private party and is also presently undeveloped (see map). They hope to put a sporting goods store and marina on the river and to build Grand River Estates, a plan calling for 8 dwelling units/acre with high sale value and located within 75 feet from the water (see proposed plan).

The land on both sides is quite similar being characterized by steep banks, erodable soils, shallow depth to bedrock, and drains fast. Vegetation is quite dense and varied.

The Grand River forms a series of falls at the bottom of which is a deep pool. It is classified as B-1 (the second highest possible rating and provides excellent habitat for trout and other organisms requiring high water quality.

In zoning the strip of land, the Planning Board has three alternatives. (1) Resource Protection District (RP) see section 9, pg. 2 of the State of Maine Guidelines for Municipal Shoreland Zoning Ordinances; (2) General Development District (GD) see section 9, pg. 3 of the same book; or (3) Limited Residential-Recreational District (LRR) see section 9, pg. 3 of the same book. See pages 3 and 4 of the same book for outline of permitted uses in each District.

It is hoped that after hearing the public's comments at the informational meeting that a satisfactory zoning classification can be made.